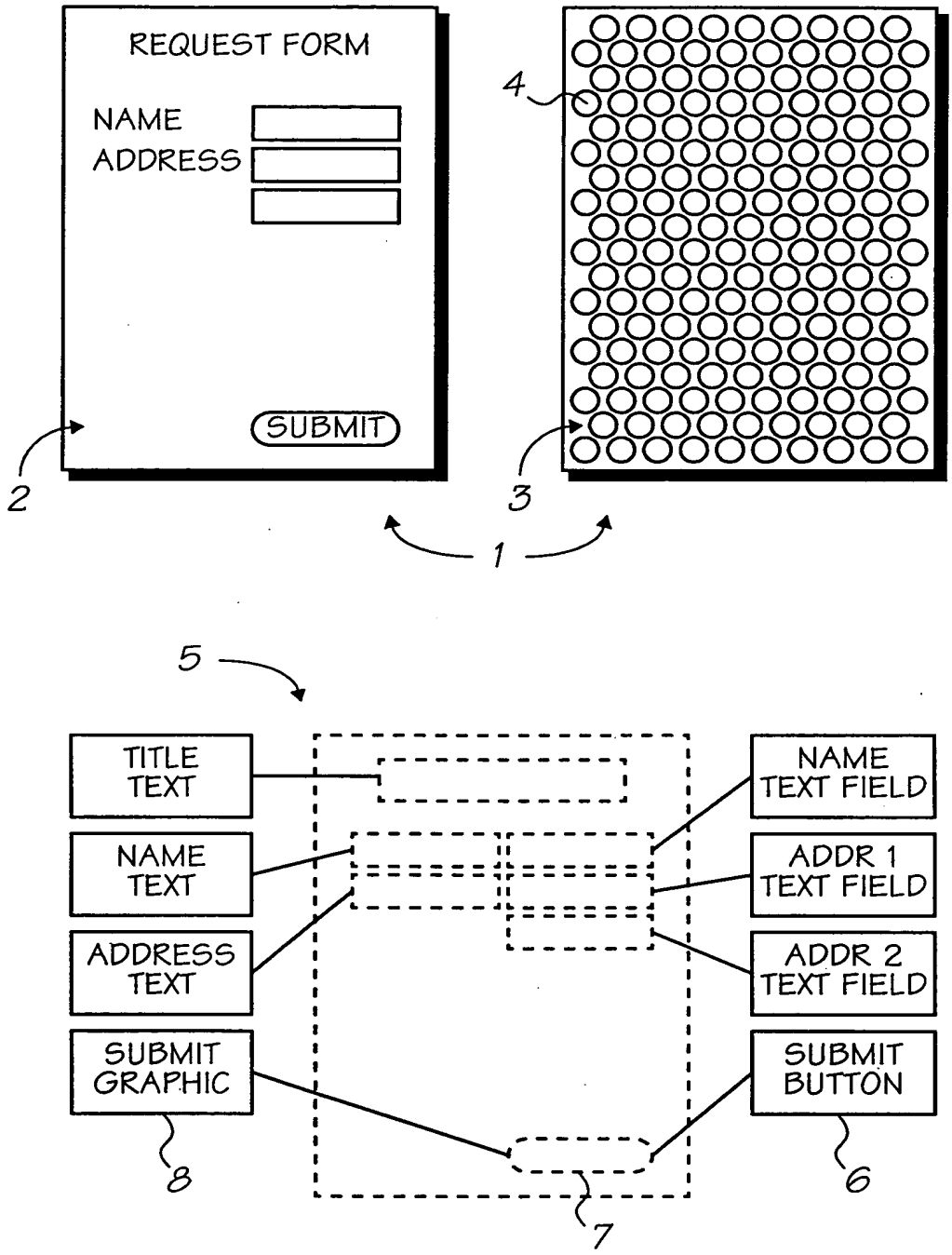
REQUEST FORM
NAME
ADDRESS
SUBMIT
2
4
3
1
5
TITLE TEXT
NAME TEXT
ADDRESS TEXT
SUBMIT GRAPHIC
NAME TEXT FIELD
ADDR 1 TEXT FIELD
ADDR 2 TEXT FIELD
SUBMIT BUTTON
8
7
6

FIG. 1

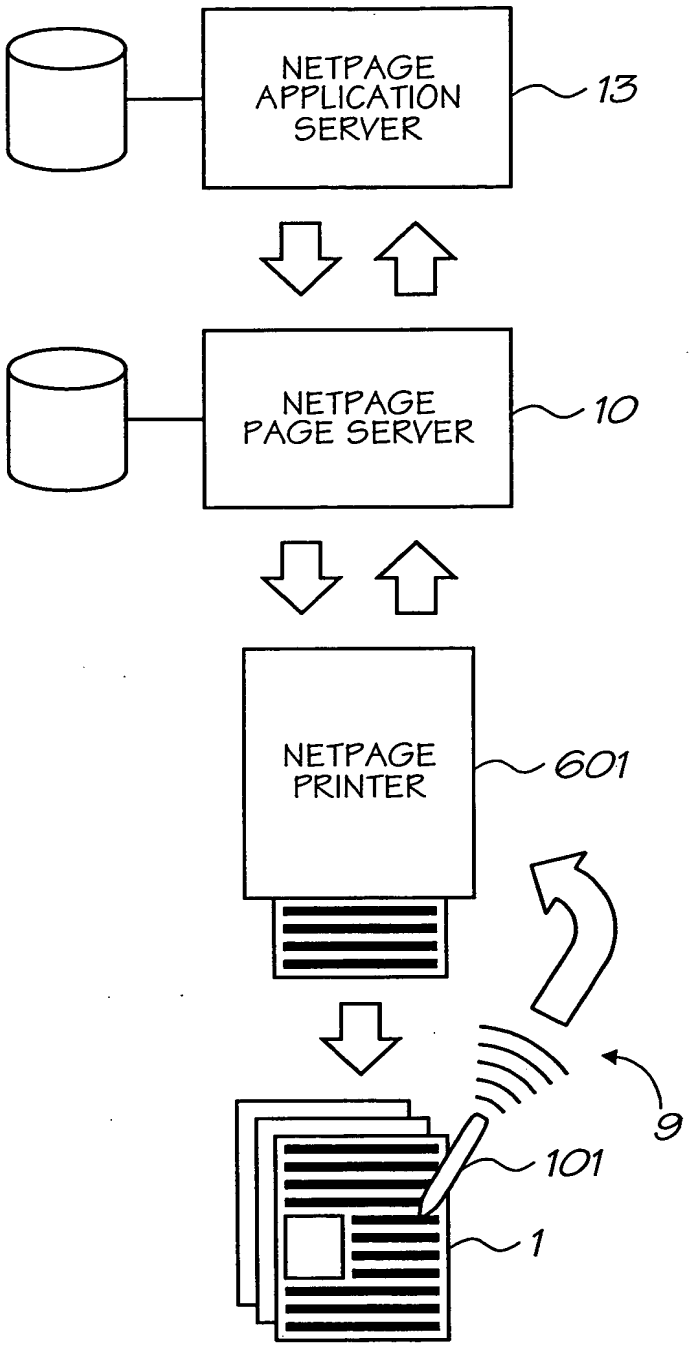
NETPAGE
APPLICATION
SERVER
13
NETPAGE
PAGE SERVER
10
NETPAGE
PRINTER
601
9
101
1

FIG. 2

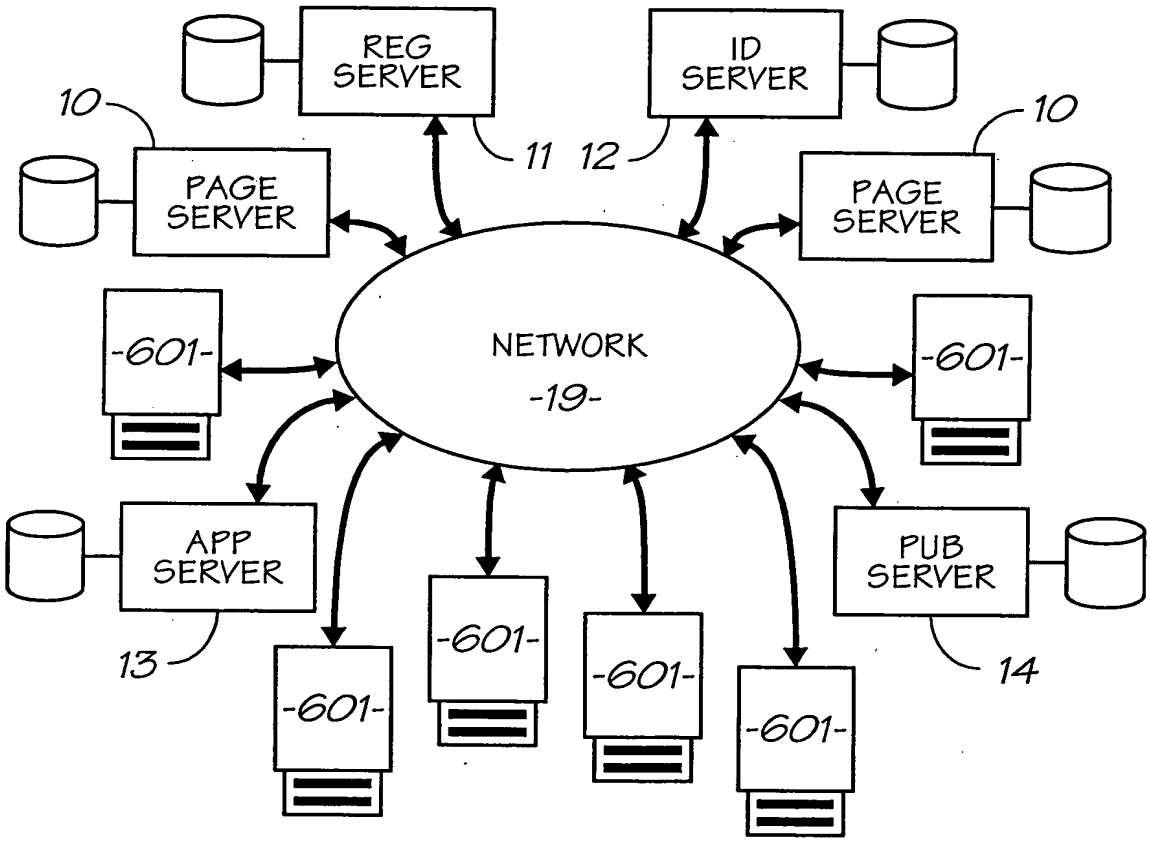
REG SERVER
ID SERVER
10
PAGE SERVER
11
12
10
PAGE SERVER
-601-
NETWORK
-19-
-601-
APP SERVER
PUB SERVER
13
14
-601-
-601-
-601-
-601-

FIG. 3

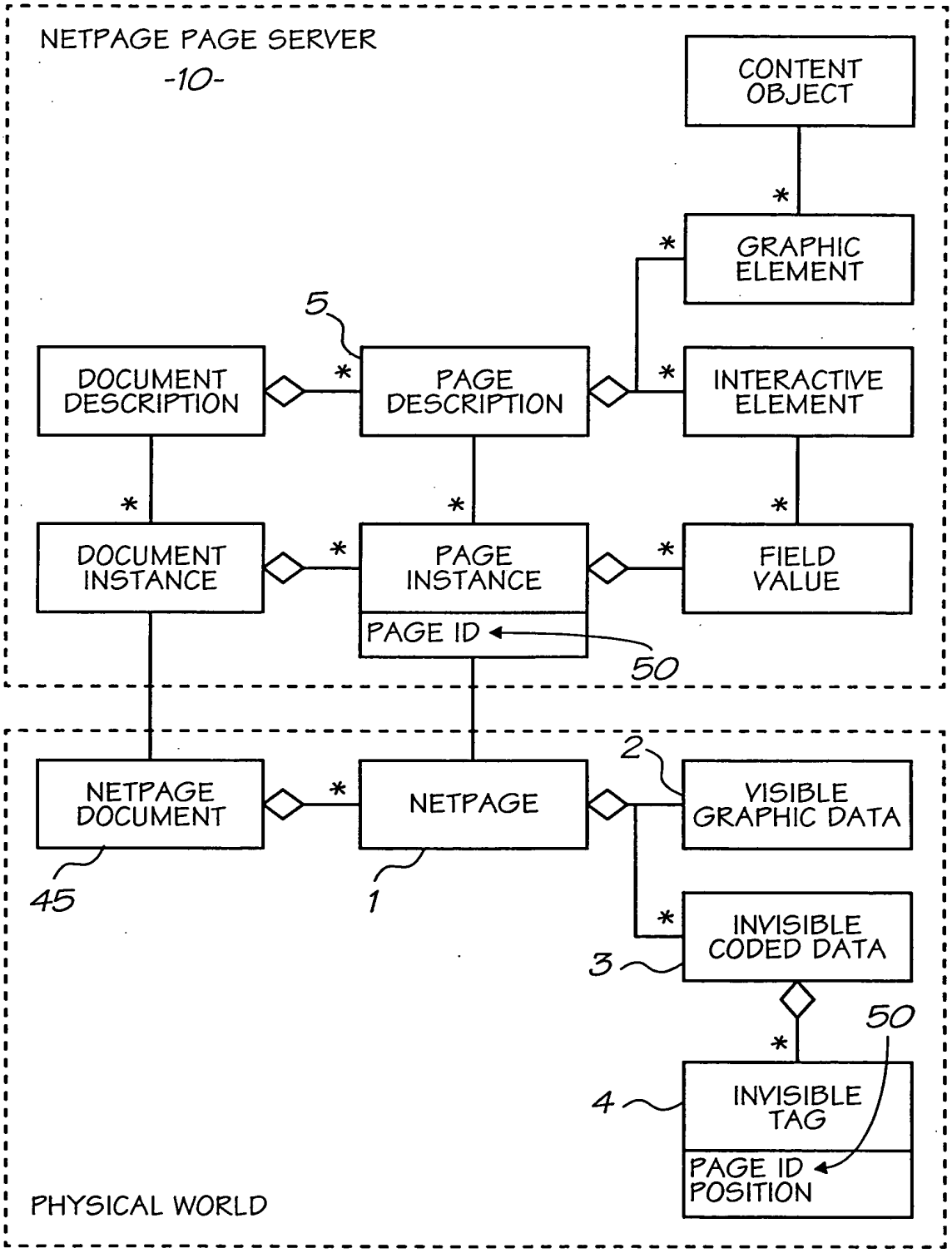
NETPAGE PAGE SERVER
-10-
CONTENT OBJECT
GRAPHIC ELEMENT
5
DOCUMENT DESCRIPTION
PAGE DESCRIPTION
INTERACTIVE ELEMENT
DOCUMENT INSTANCE
PAGE INSTANCE
FIELD VALUE
PAGE ID
50
2
NETPAGE DOCUMENT
NETPAGE
VISIBLE GRAPHIC DATA
45
1
INVISIBLE CODED DATA
3
50
4
INVISIBLE TAG
PAGE ID POSITION
PHYSICAL WORLD

FIG. 4

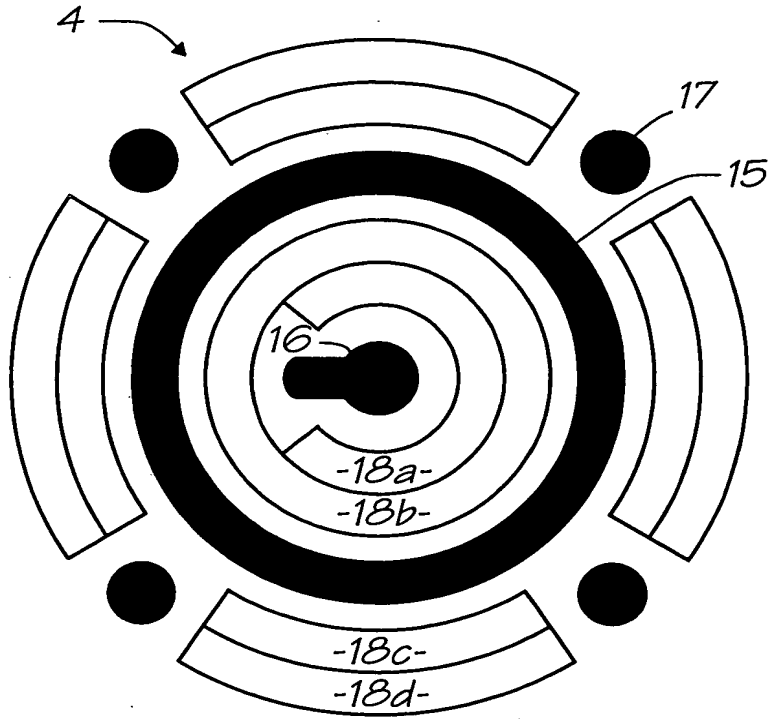

FIG. 5

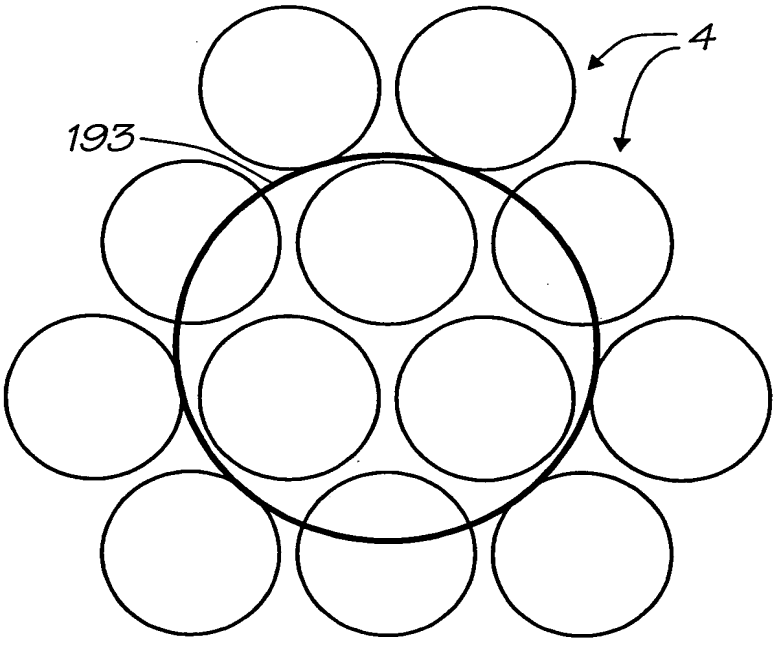

FIG. 6

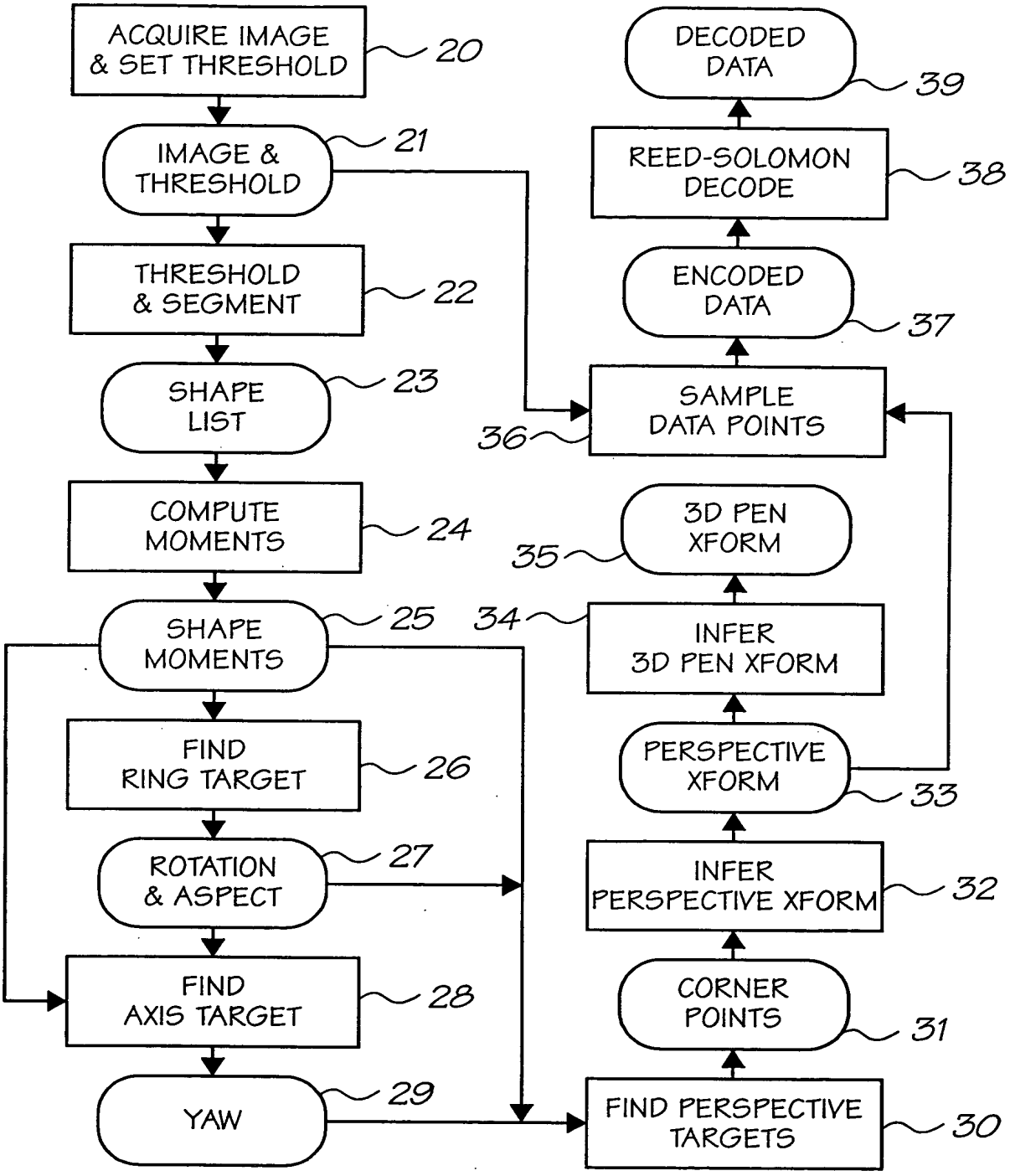
ACQUIRE IMAGE & SET THRESHOLD
20
IMAGE & THRESHOLD
21
THRESHOLD & SEGMENT
22
SHAPE LIST
23
COMPUTE MOMENTS
24
SHAPE MOMENTS
25
FIND RING TARGET
26
ROTATION & ASPECT
27
FIND AXIS TARGET
28
YAW
29
FIND PERSPECTIVE TARGETS
30
CORNER POINTS
31
INFER PERSPECTIVE XFORM
32
PERSPECTIVE XFORM
33
INFER 3D PEN XFORM
34
3D PEN XFORM
35
SAMPLE DATA POINTS
36
ENCODED DATA
37
REED-SOLOMON DECODE
38
DECODED DATA
39

FIG. 7

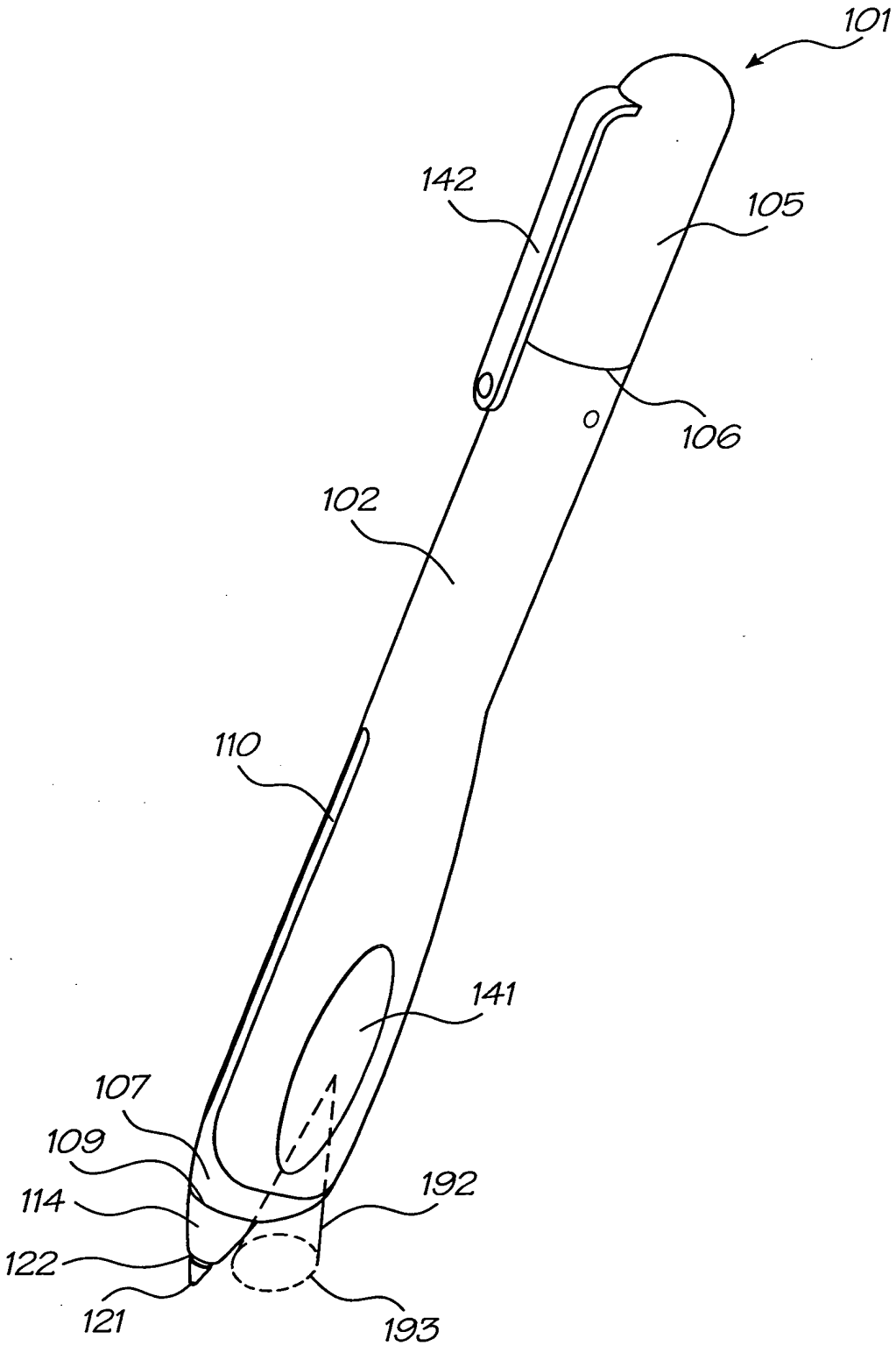

FIG. 8

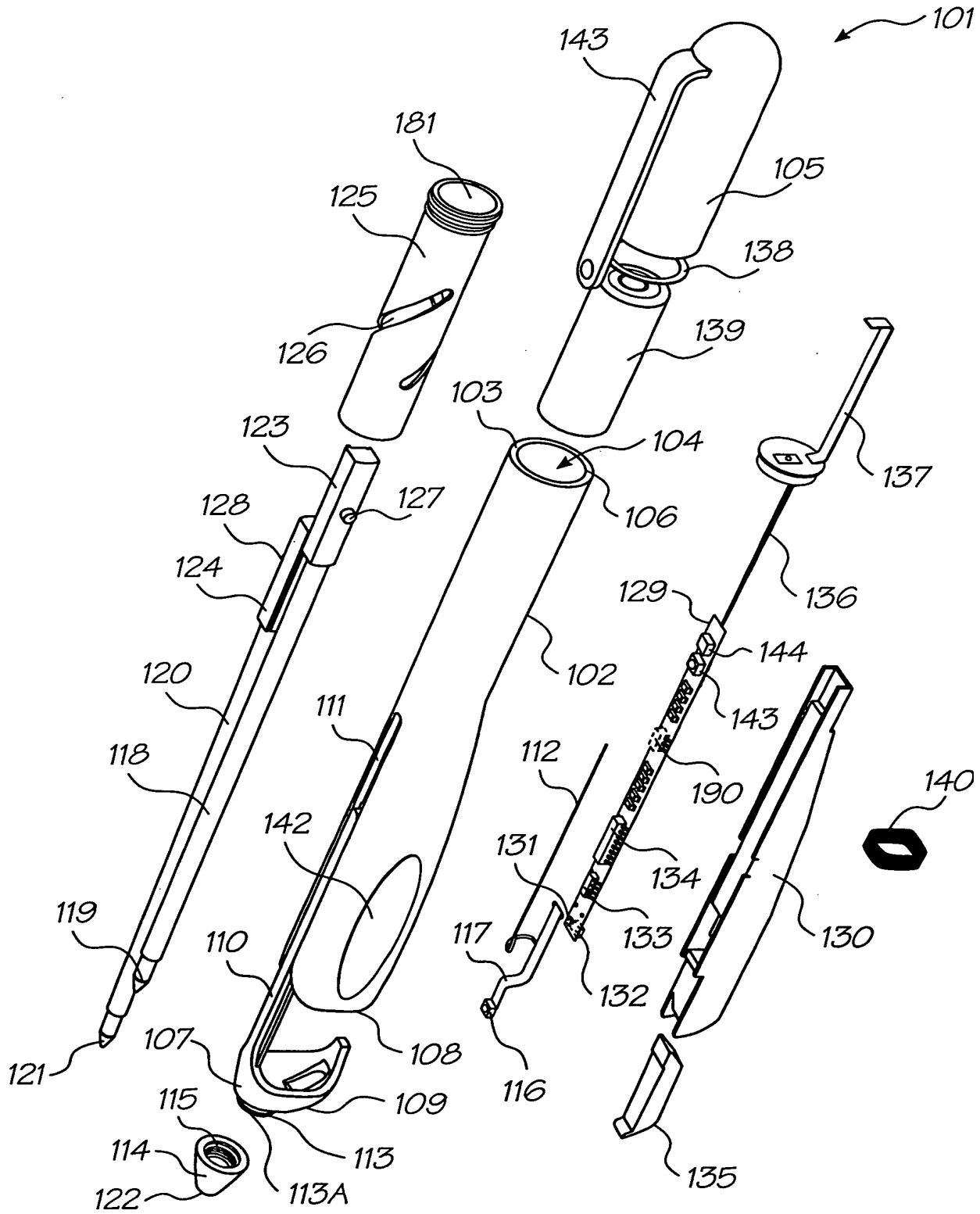
101
143
181
105
125
138
126
139
103
104
123
137
128
127
106
124
129
136
144
120
102
143
111
112
118
190
140
142
131
134
119
133
130
110
117
132
107
108
116
121
109
115
135
114
113
122
113A

FIG. 9

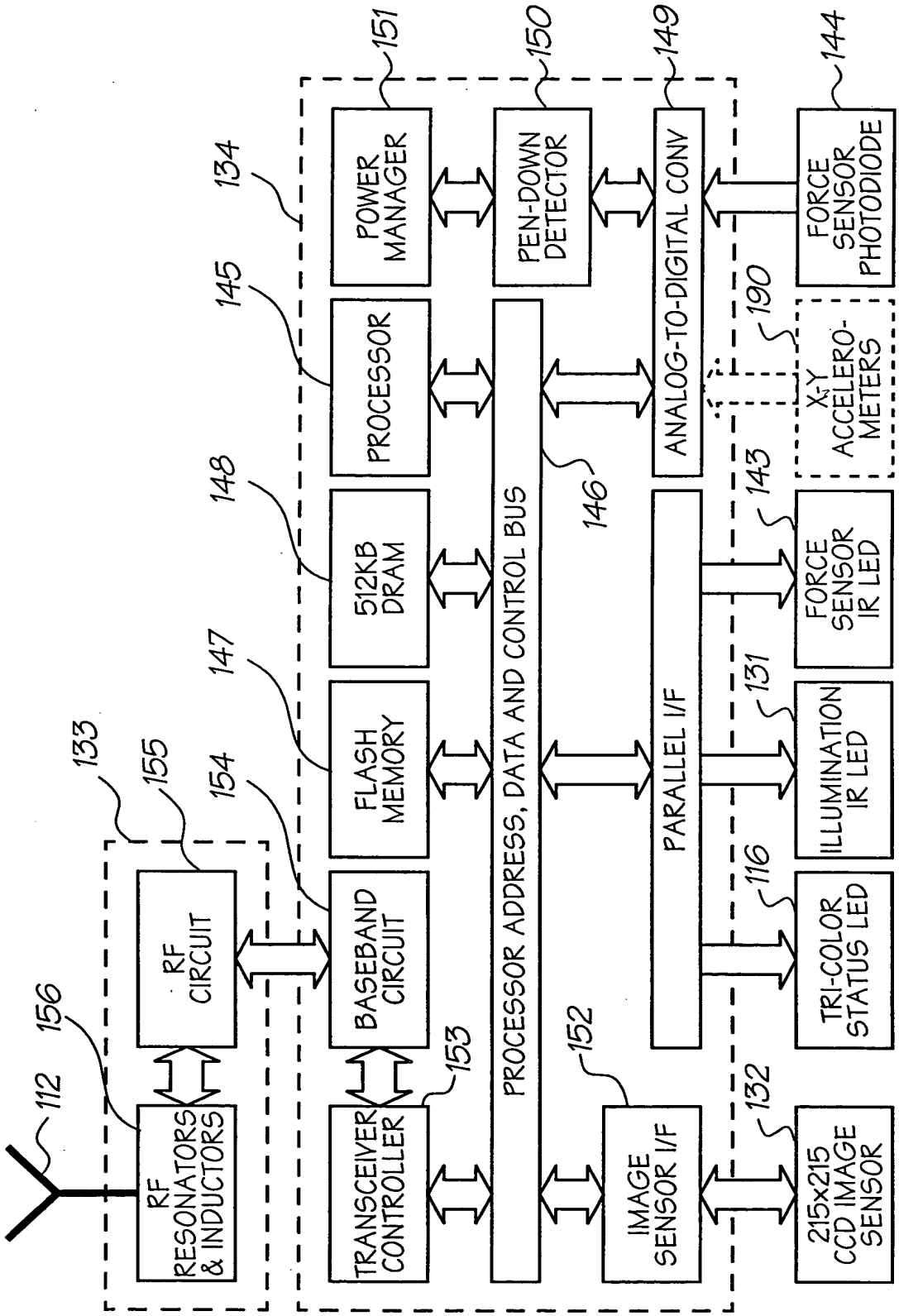
112
156
RF RESONATORS & INDUCTORS
133
155
RF CIRCUIT
154
BASEBAND CIRCUIT
153
TRANSCEIVER CONTROLLER
147
FLASH MEMORY
148
512KB DRAM
145
PROCESSOR
134
POWER MANAGER
151
PEN-DOWN DETECTOR
150
ANALOG-TO-DIGITAL CONV
149
144
FORCE SENSOR PHOTODIODE
190
X-Y ACCELERO-METERS
PROCESSOR ADDRESS, DATA AND CONTROL BUS
146
PARALLEL I/F
143
FORCE SENSOR IR LED
131
ILLUMINATION IR LED
116
TRI-COLOR STATUS LED
152
IMAGE SENSOR I/F
132
215x215 CCD IMAGE SENSOR

FIG. 10

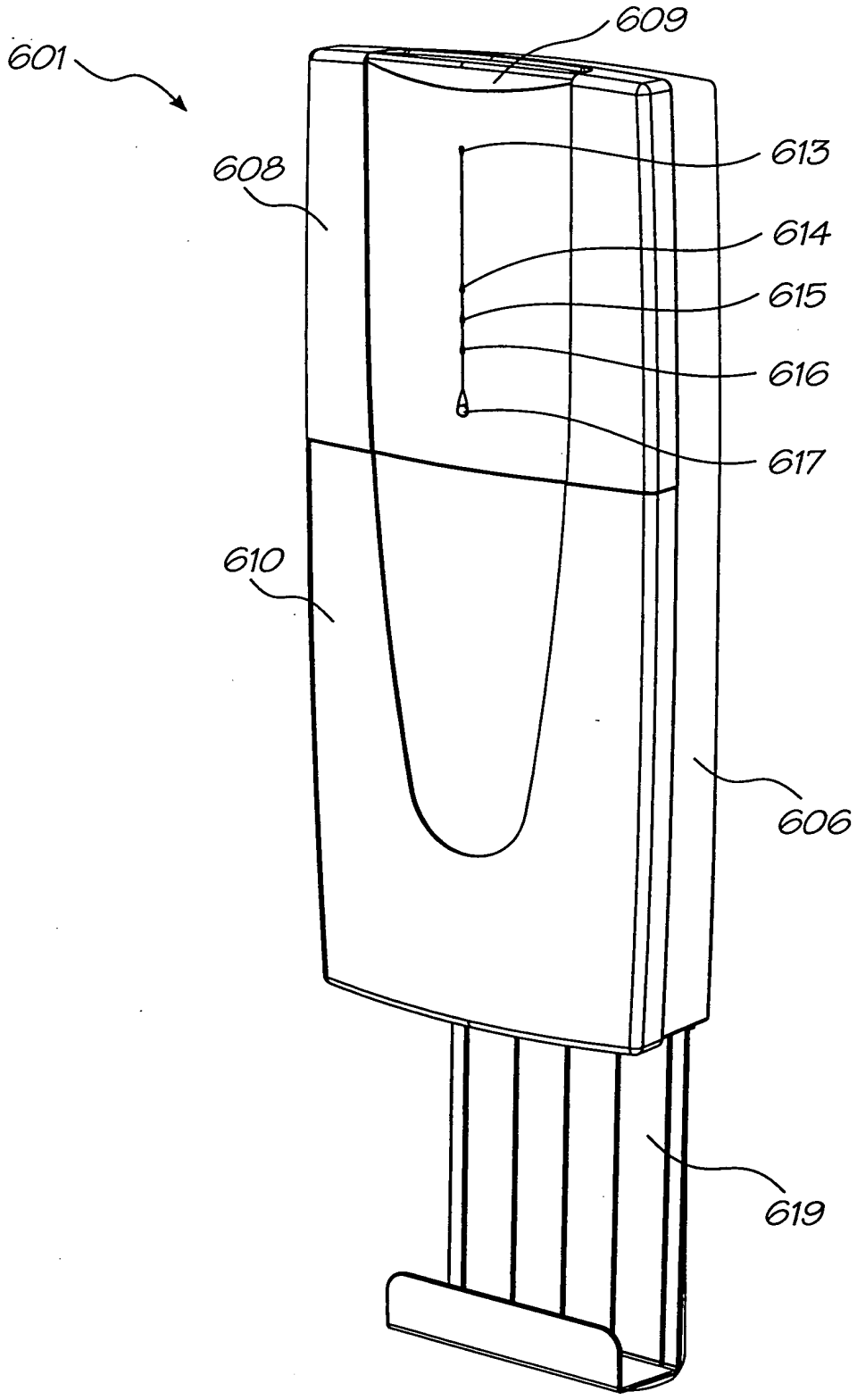

FIG. 11

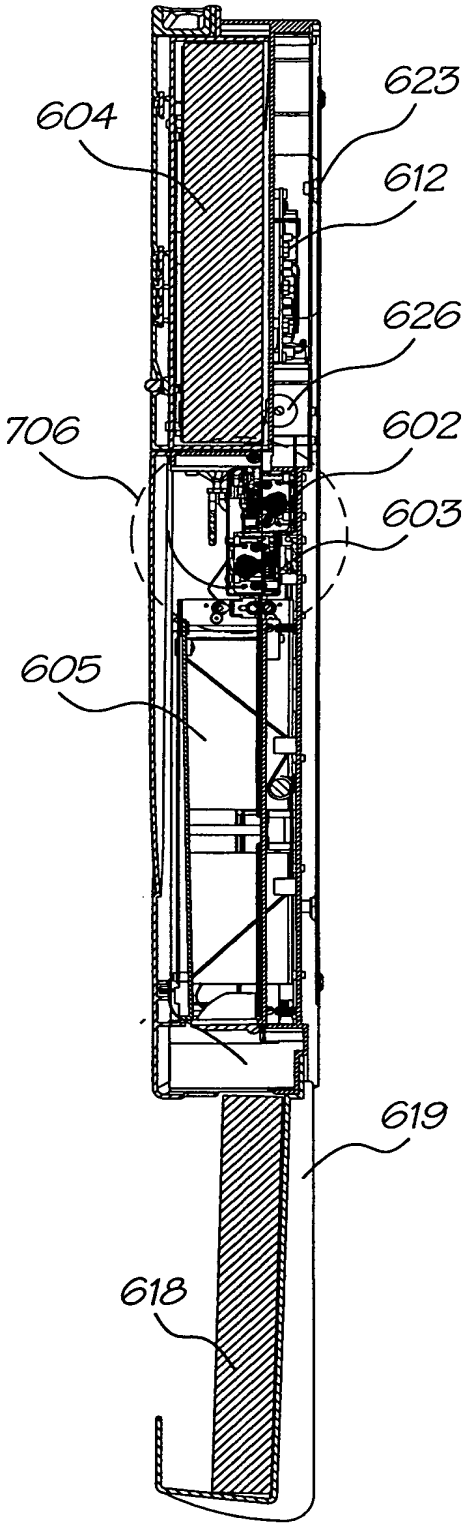

FIG. 12

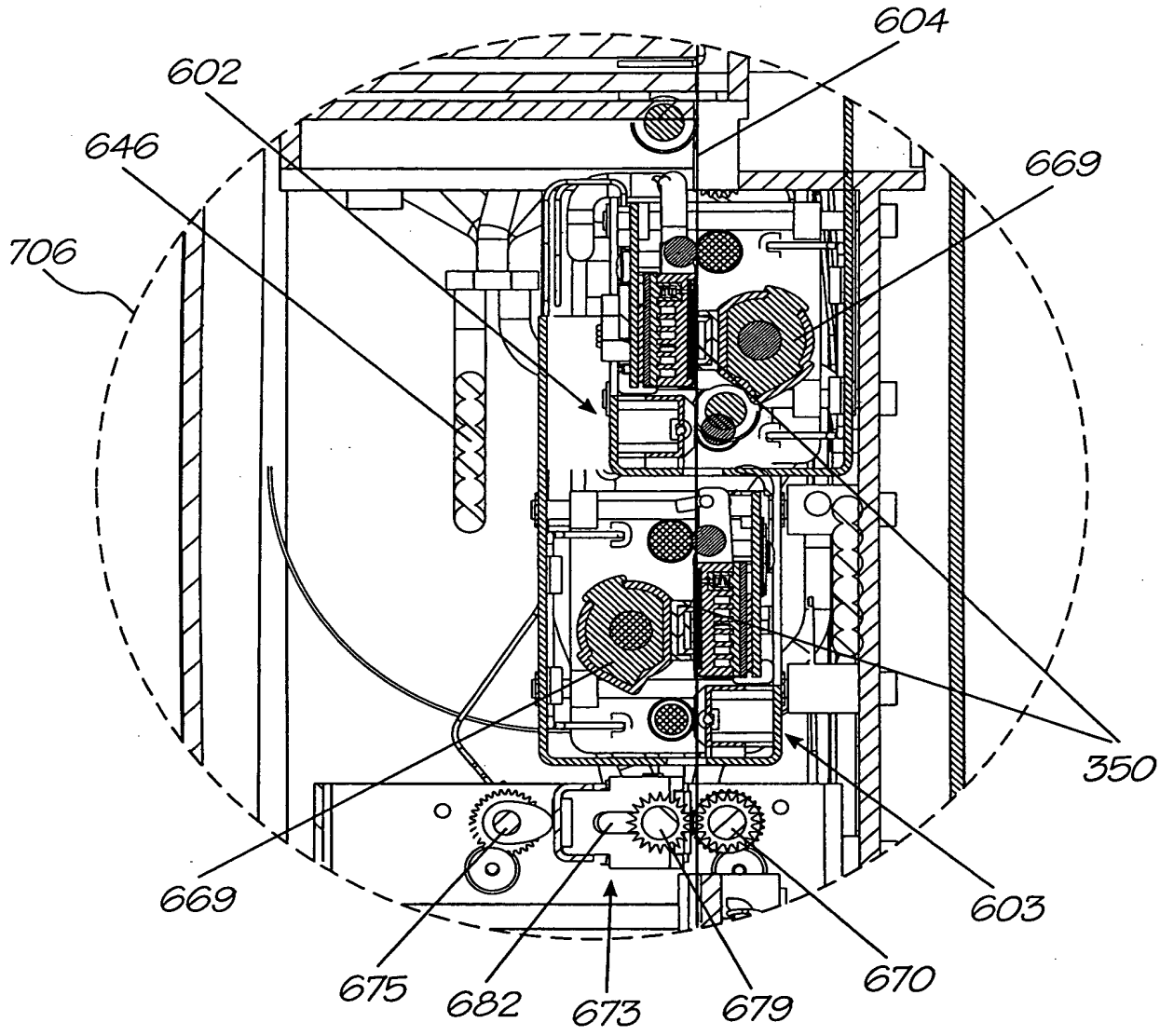

FIG. 12a

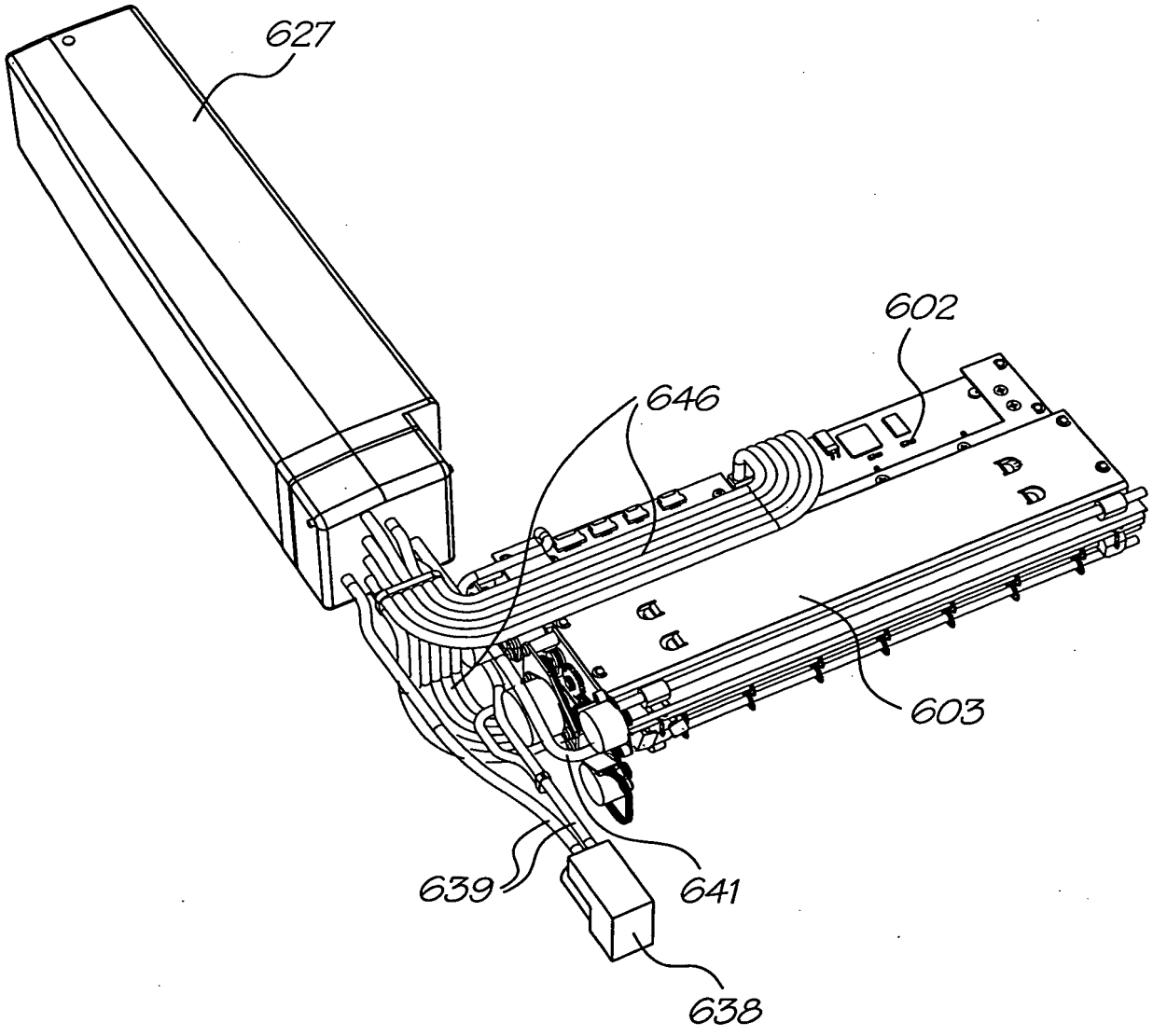

FIG. 13

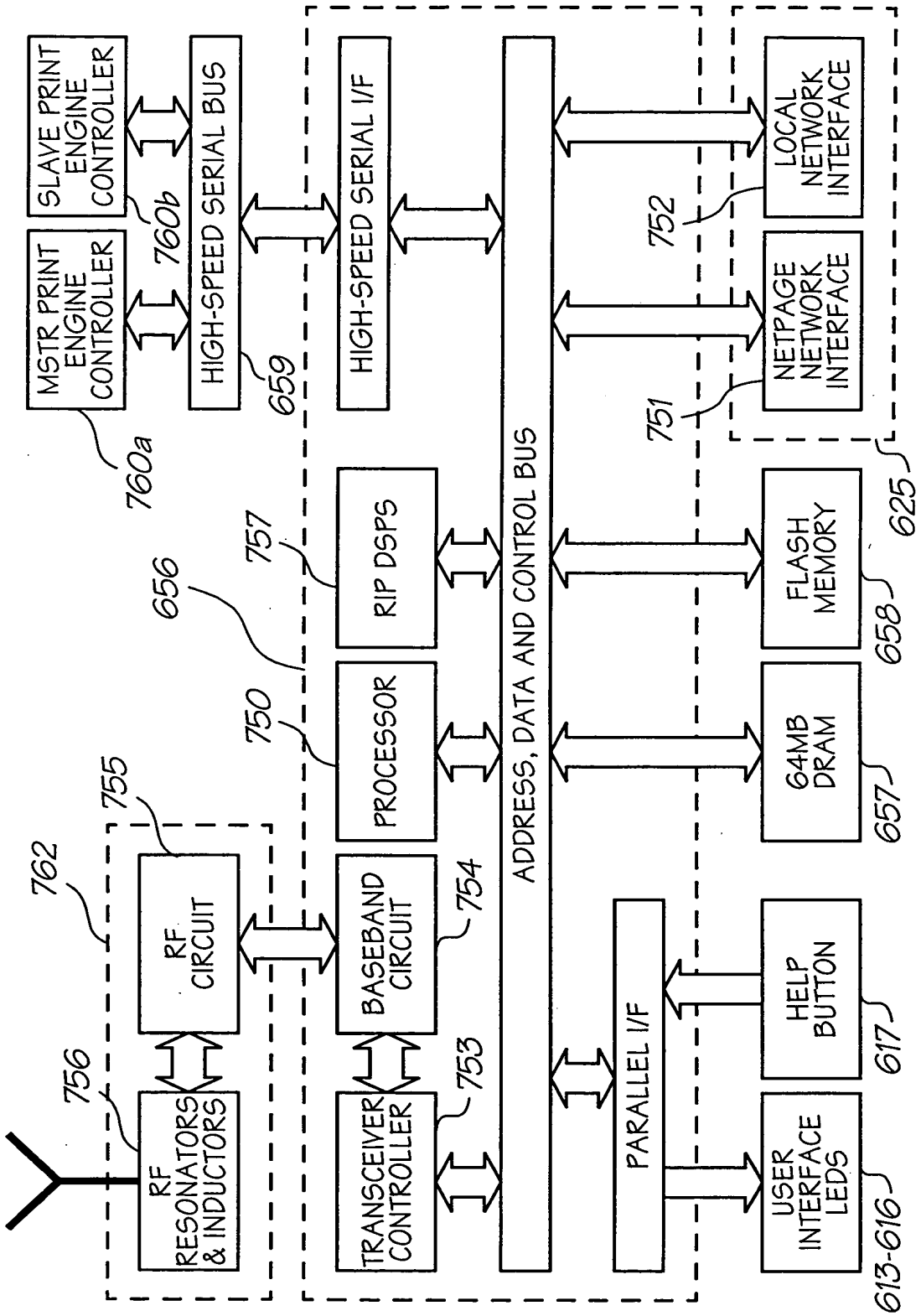
SLAVE PRINT ENGINE CONTROLLER
MSTR PRINT ENGINE CONTROLLER
HIGH-SPEED SERIAL BUS
HIGH-SPEED SERIAL I/F
LOCAL NETWORK INTERFACE
NETPAGE NETWORK INTERFACE
RIP DSPS
PROCESSOR
FLASH MEMORY
64MB DRAM
ADDRESS, DATA AND CONTROL BUS
RF CIRCUIT
BASEBAND CIRCUIT
RF RESONATORS & INDUCTORS
TRANSCEIVER CONTROLLER
PARALLEL I/F
HELP BUTTON
USER INTERFACE LEDS
760a
760b
659
752
751
656
757
750
625
658
657
755
762
754
756
753
617
613-616

FIG. 14

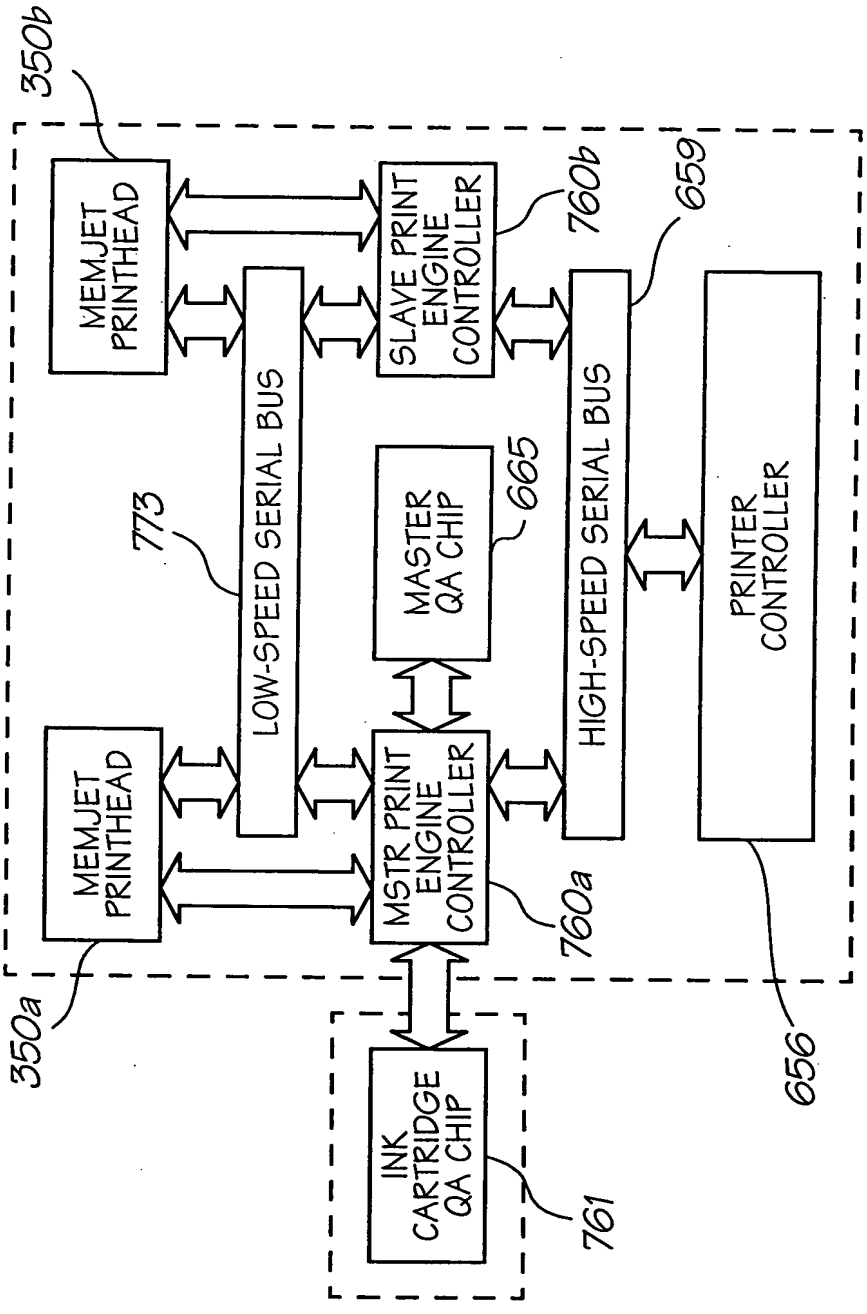
350b
MEMJET PRINTHEAD
SLAVE PRINT ENGINE CONTROLLER
760b
659
773
LOW-SPEED SERIAL BUS
MASTER QA CHIP
665
HIGH-SPEED SERIAL BUS
PRINTER CONTROLLER
MEMJET PRINTHEAD
MSTR PRINT ENGINE CONTROLLER
760a
350a
656
INK CARTRIDGE QA CHIP
761

FIG. 15

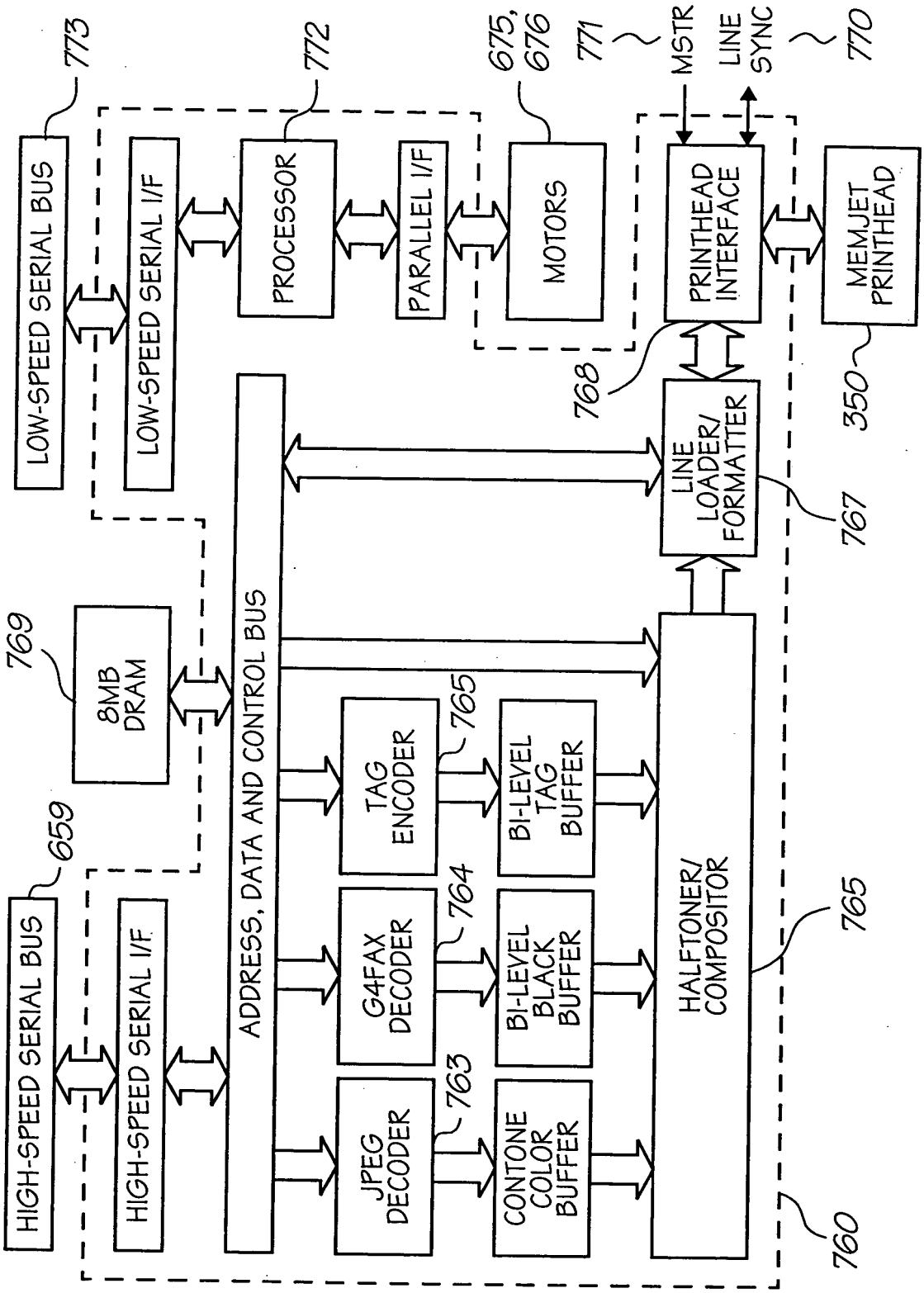
773
LOW-SPEED SERIAL BUS
LOW-SPEED SERIAL I/F
772
PROCESSOR
PARALLEL I/F
675, 676
MOTORS
771
MSTR
LINE SYNC
770
PRINTHEAD INTERFACE
MEMJET PRINTHEAD
768
350
LINE LOADER/ FORMATTER
767
769
8MB DRAM
ADDRESS, DATA AND CONTROL BUS
TAG ENCODER
765
BI-LEVEL TAG BUFFER
659
G4FAX DECODER
764
BI-LEVEL BLACK BUFFER
HALFTONER/ COMPOSITOR
765
HIGH-SPEED SERIAL BUS
HIGH-SPEED SERIAL I/F
JPEG DECODER
763
CONTONE COLOR BUFFER
760

FIG. 16

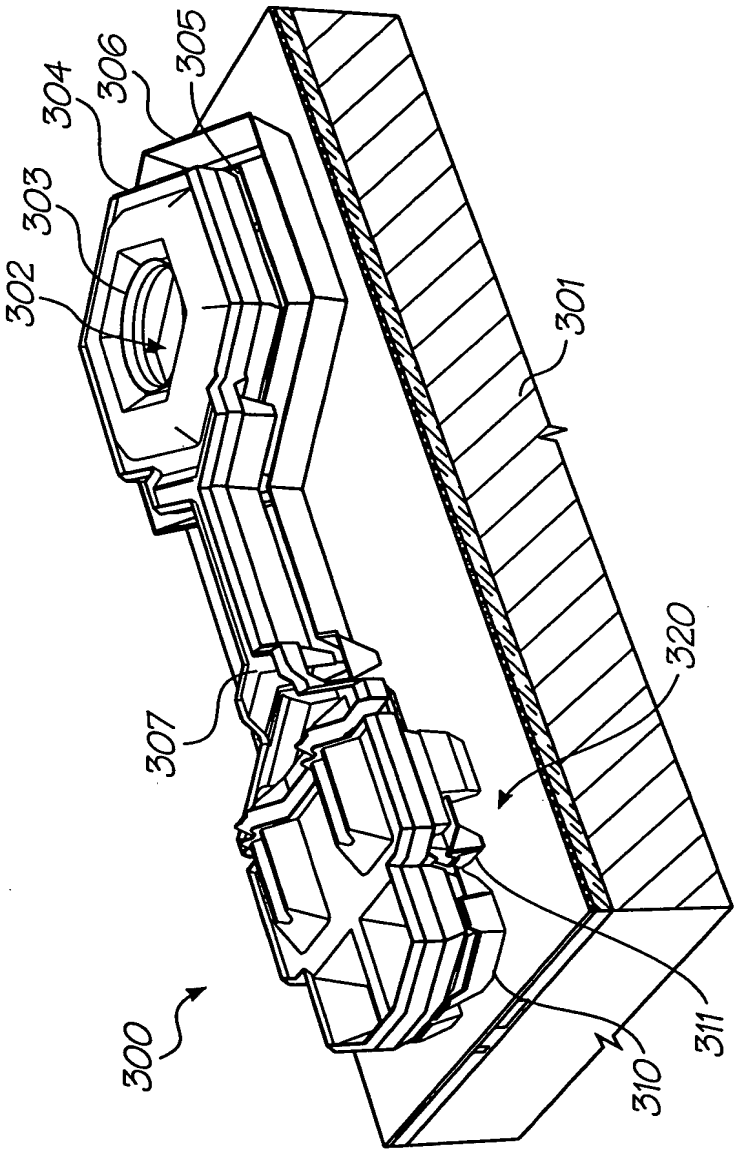

FIG. 17

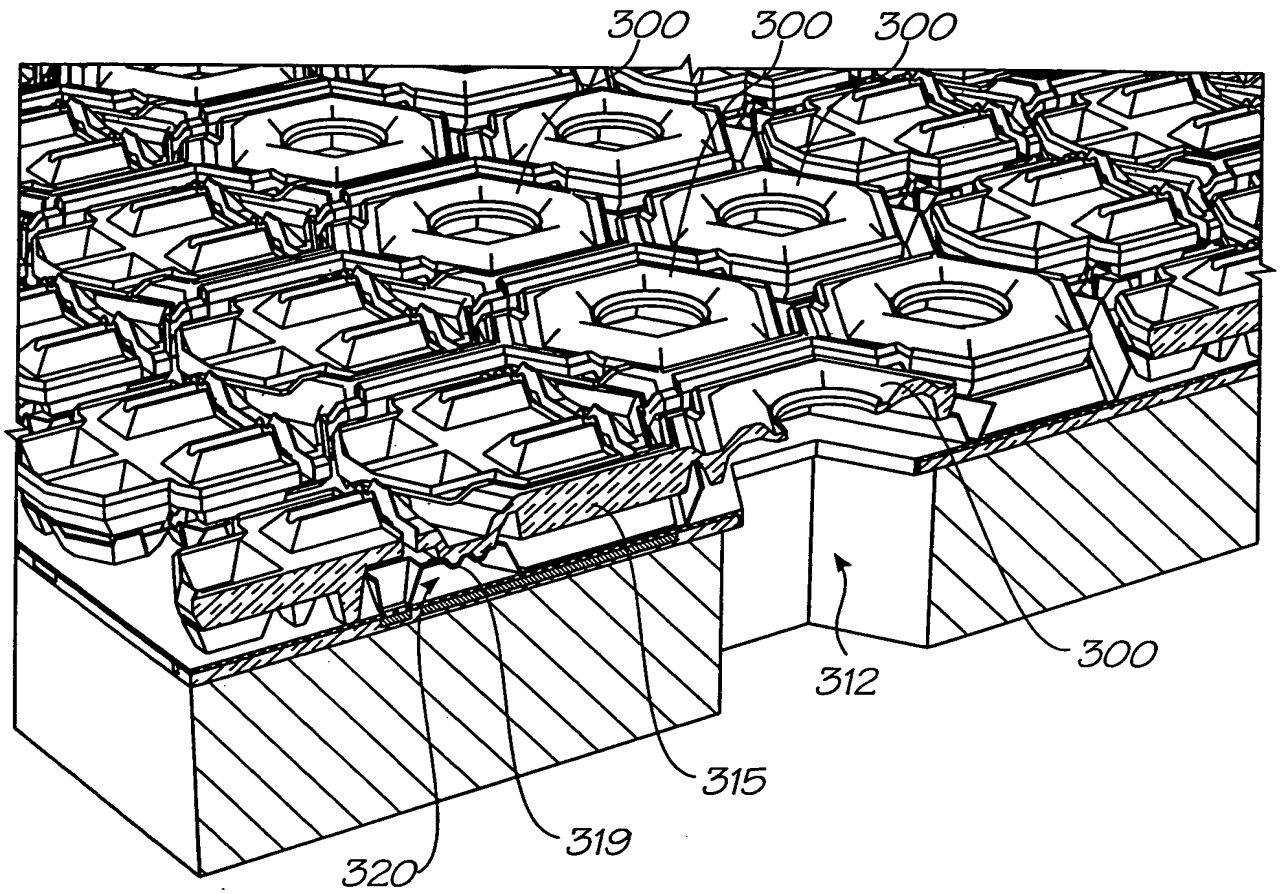

FIG. 18

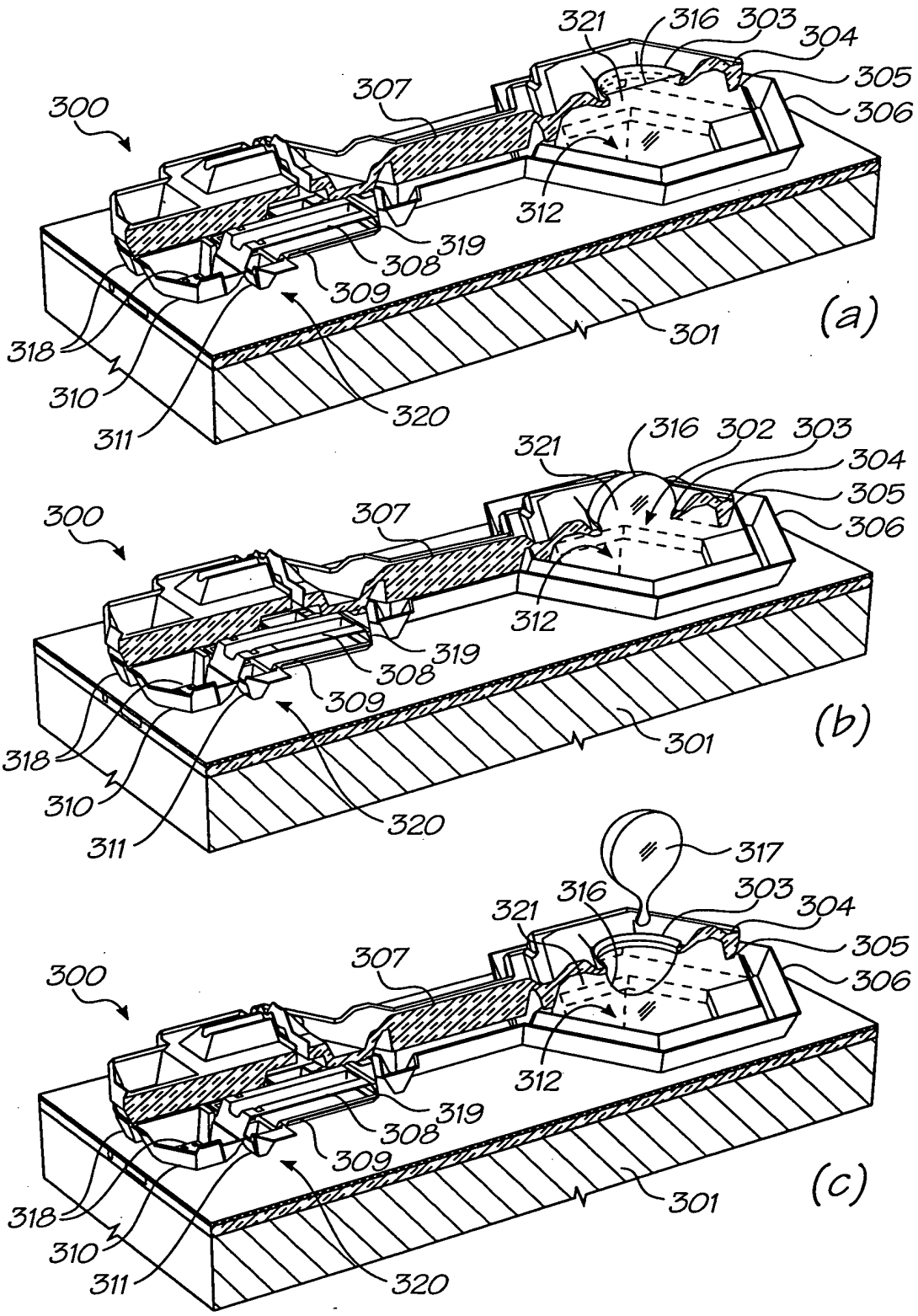
321
316
303
304
305
306
307
300
312
319
308
309
318
310
311
320
301
(a)
316
302
303
304
305
306
321
307
300
312
319
308
309
318
310
311
320
301
(b)
317
316
303
304
321
305
306
307
300
312
319
308
309
318
310
311
320
301
(c)

FIG. 19

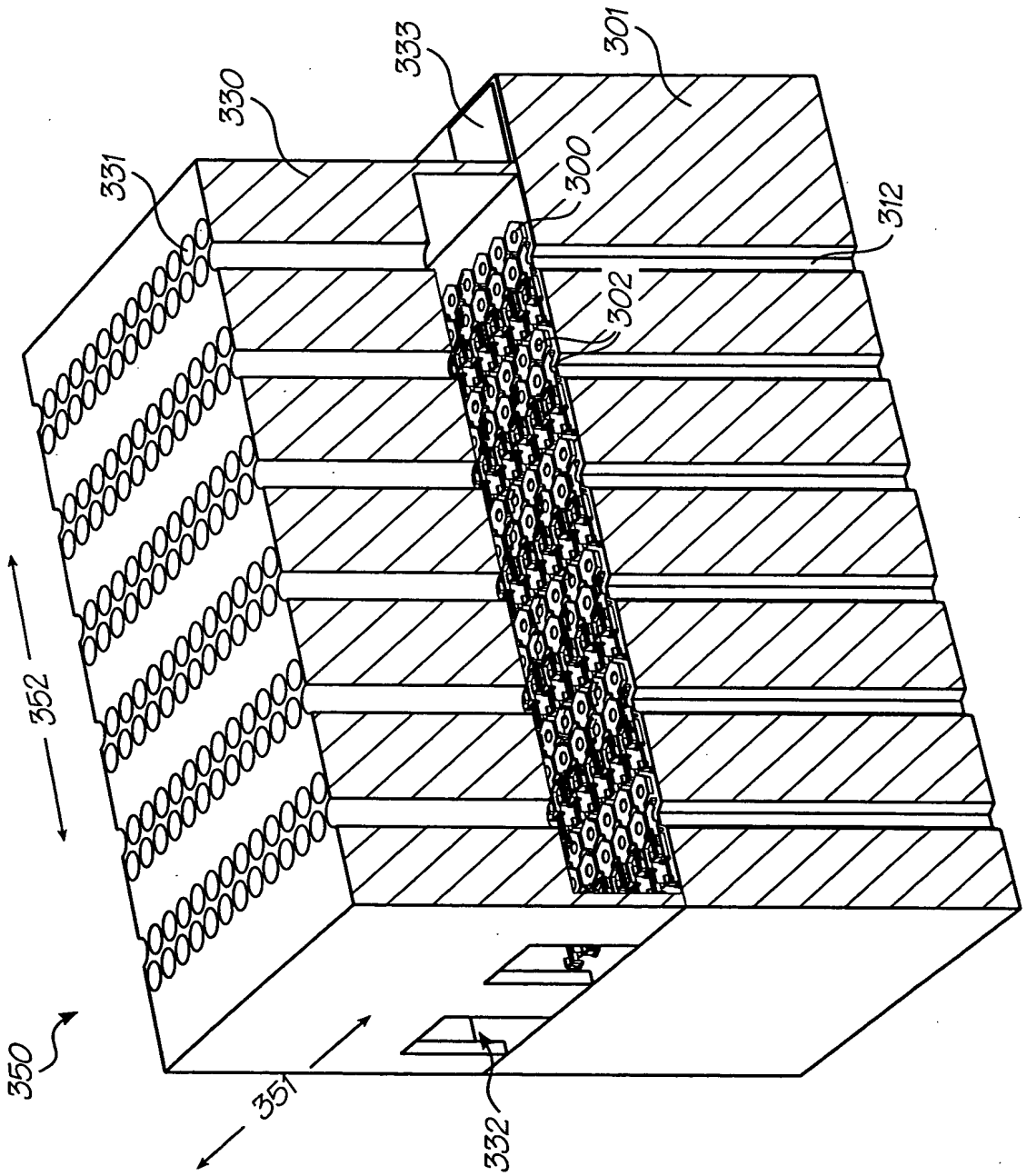

FIG. 20

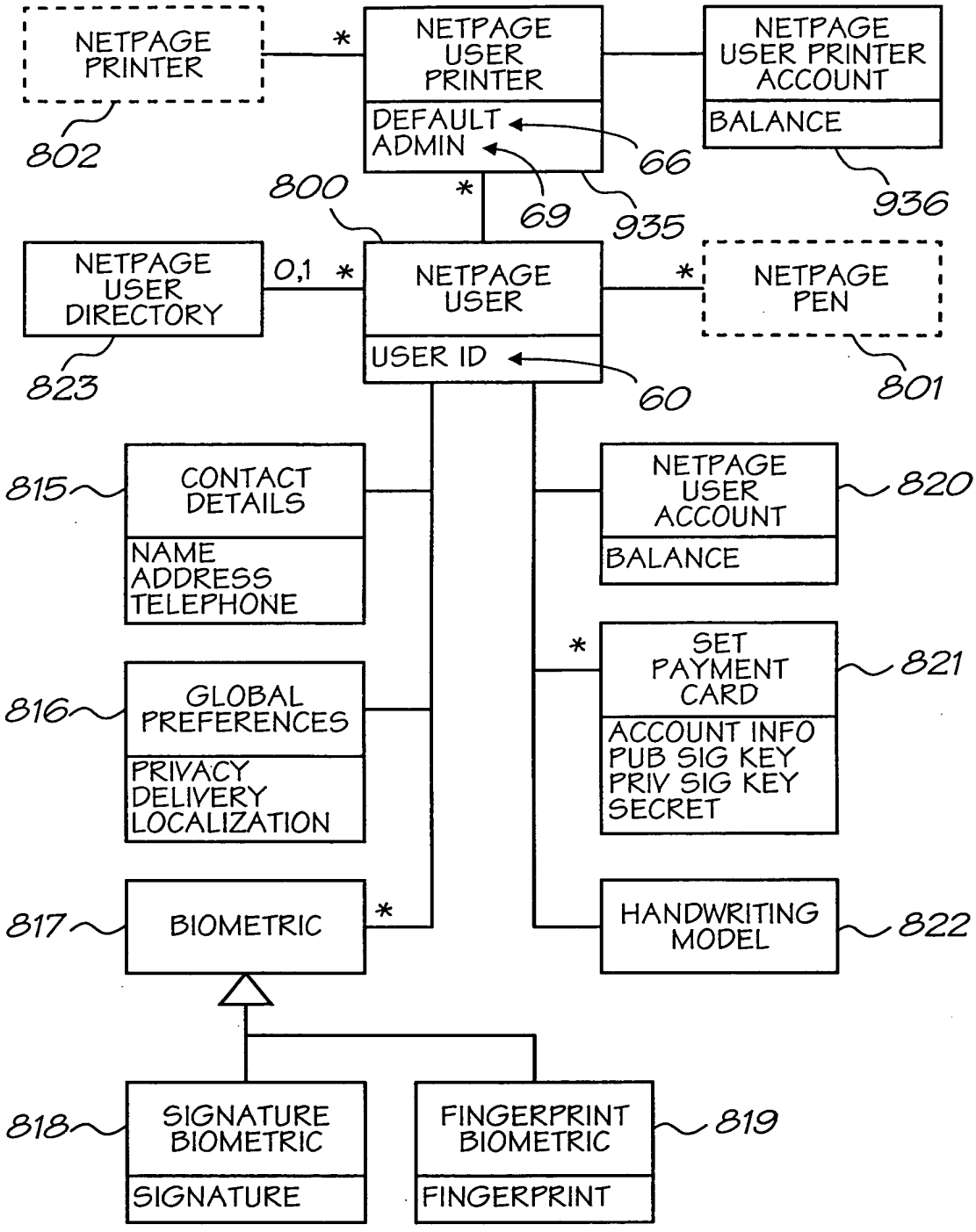
NETPAGE PRINTER
802
*
NETPAGE USER PRINTER
DEFAULT
ADMIN
66
69
935
NETPAGE USER PRINTER ACCOUNT
BALANCE
936
800
*
NETPAGE USER DIRECTORY
0,1 *
823
NETPAGE USER
USER ID
60
*
NETPAGE PEN
801
815
CONTACT DETAILS
NAME
ADDRESS
TELEPHONE
NETPAGE USER ACCOUNT
BALANCE
820
816
GLOBAL PREFERENCES
PRIVACY
DELIVERY
LOCALIZATION
*
SET PAYMENT CARD
ACCOUNT INFO
PUB SIG KEY
PRIV SIG KEY
SECRET
821
817
BIOMETRIC
*
HANDWRITING MODEL
822
818
SIGNATURE BIOMETRIC
SIGNATURE
FINGERPRINT BIOMETRIC
FINGERPRINT
819

FIG. 21

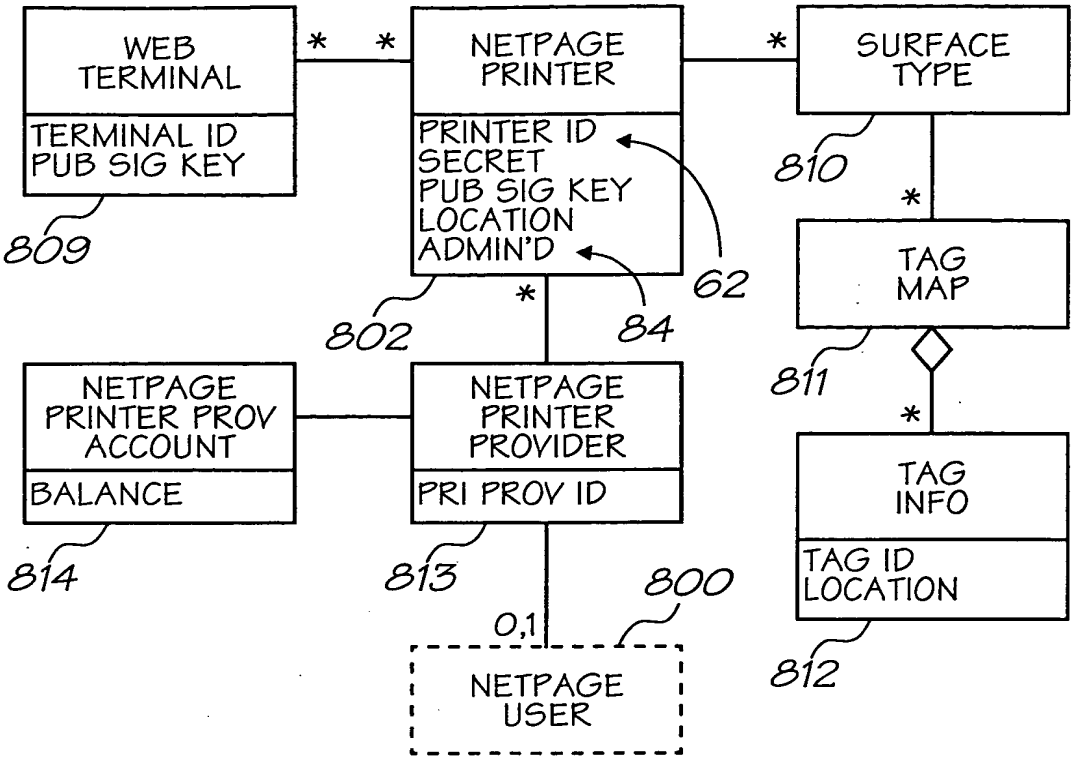
WEB TERMINAL
TERMINAL ID
PUB SIG KEY
809
NETPAGE PRINTER
PRINTER ID
SECRET
PUB SIG KEY
LOCATION
ADMIN'D
802
84
62
SURFACE TYPE
810
TAG MAP
811
TAG INFO
TAG ID
LOCATION
812
NETPAGE PRINTER PROV ACCOUNT
BALANCE
814
NETPAGE PRINTER PROVIDER
PRI PROV ID
813
800
0,1
NETPAGE USER
*

FIG. 22

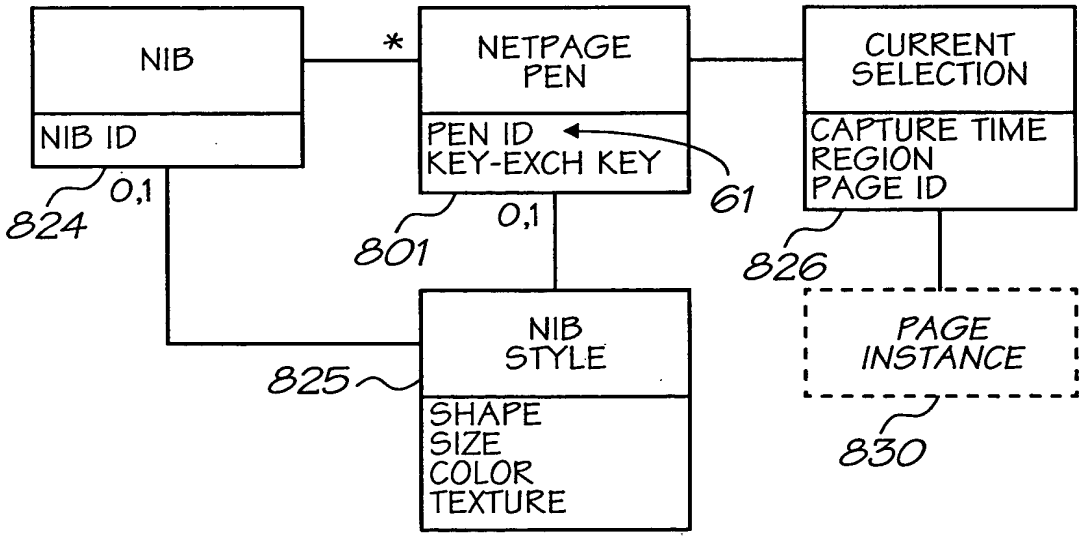
NIB
NIB ID
824
0,1
NETPAGE PEN
PEN ID
KEY-EXCH KEY
801
61
0,1
CURRENT SELECTION
CAPTURE TIME
REGION
PAGE ID
826
NIB STYLE
825
SHAPE
SIZE
COLOR
TEXTURE
PAGE INSTANCE
830
*

FIG. 23

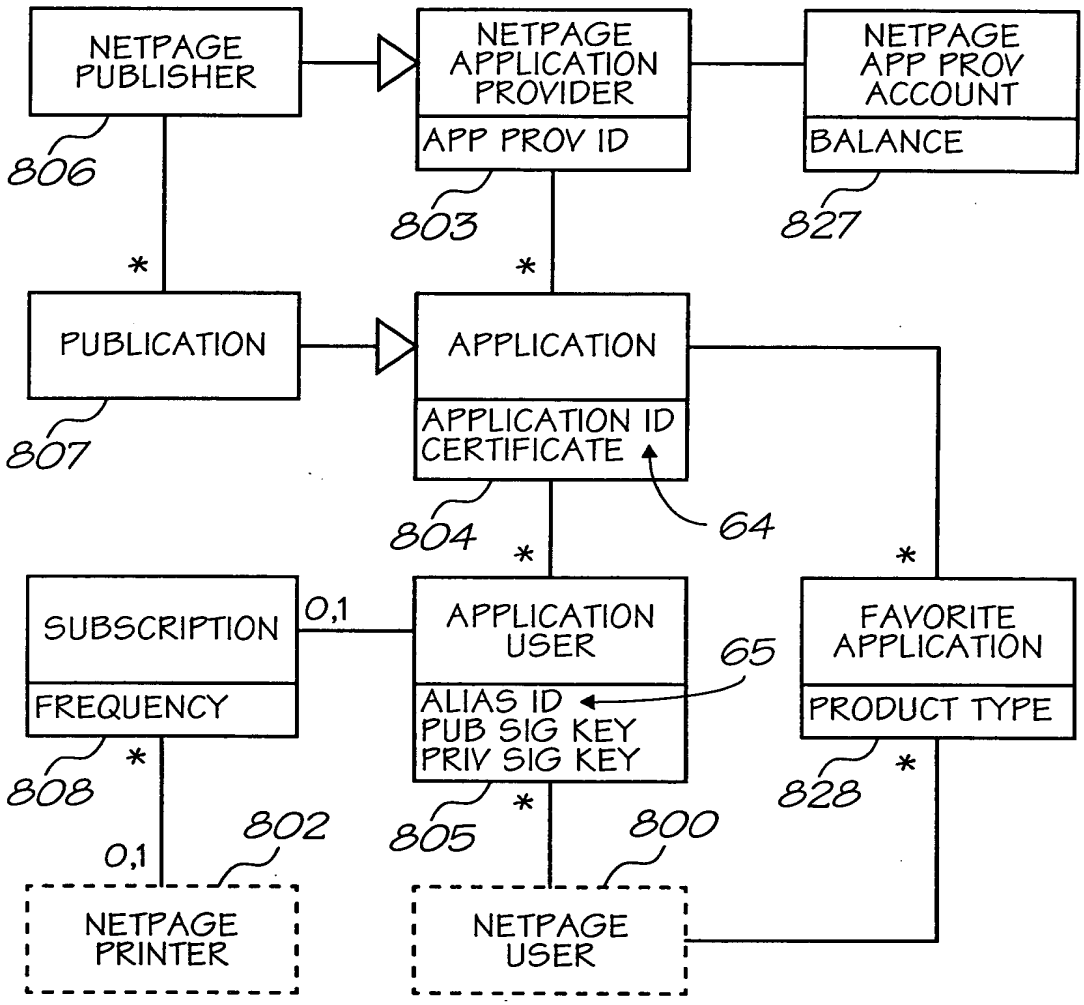
NETPAGE PUBLISHER
806
NETPAGE APPLICATION PROVIDER
APP PROV ID
803
NETPAGE APP PROV ACCOUNT
BALANCE
827
PUBLICATION
807
APPLICATION
APPLICATION ID
CERTIFICATE
804
64
SUBSCRIPTION
FREQUENCY
808
0,1
APPLICATION USER
ALIAS ID
PUB SIG KEY
PRIV SIG KEY
805
65
FAVORITE APPLICATION
PRODUCT TYPE
828
802
800
NETPAGE PRINTER
NETPAGE USER

FIG. 24

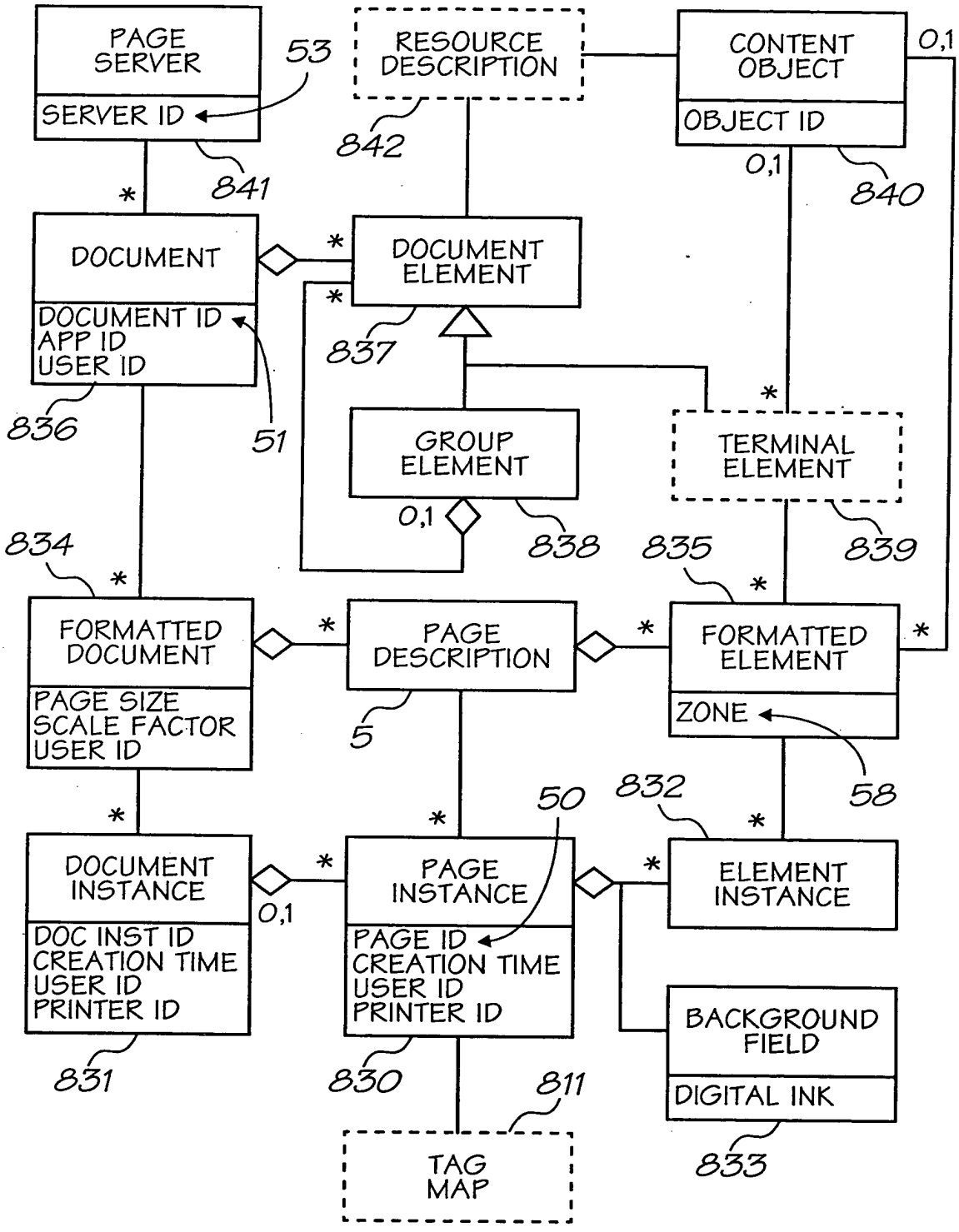
PAGE SERVER
SERVER ID
53
RESOURCE DESCRIPTION
CONTENT OBJECT
OBJECT ID
0,1
842
841
840
DOCUMENT
DOCUMENT ID
APP ID
USER ID
DOCUMENT ELEMENT
837
836
51
GROUP ELEMENT
TERMINAL ELEMENT
0,1
838
839
834
835
FORMATTED DOCUMENT
PAGE SIZE
SCALE FACTOR
USER ID
PAGE DESCRIPTION
FORMATTED ELEMENT
ZONE
5
58
832
50
DOCUMENT INSTANCE
DOC INST ID
CREATION TIME
USER ID
PRINTER ID
PAGE INSTANCE
PAGE ID
CREATION TIME
USER ID
PRINTER ID
ELEMENT INSTANCE
BACKGROUND FIELD
DIGITAL INK
831
830
811
833
TAG MAP

FIG. 25

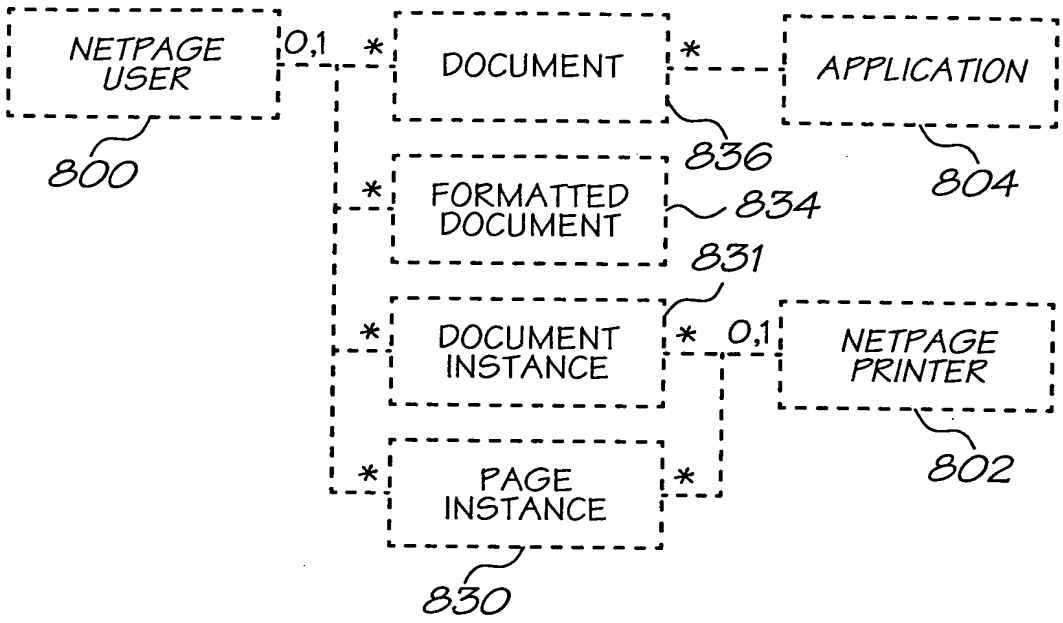
NETPAGE USER
0,1
*
DOCUMENT
*
APPLICATION
800
836
804
*
FORMATTED DOCUMENT
834
831
*
DOCUMENT INSTANCE
*
0,1
NETPAGE PRINTER
802
*
PAGE INSTANCE
*
830

FIG. 26

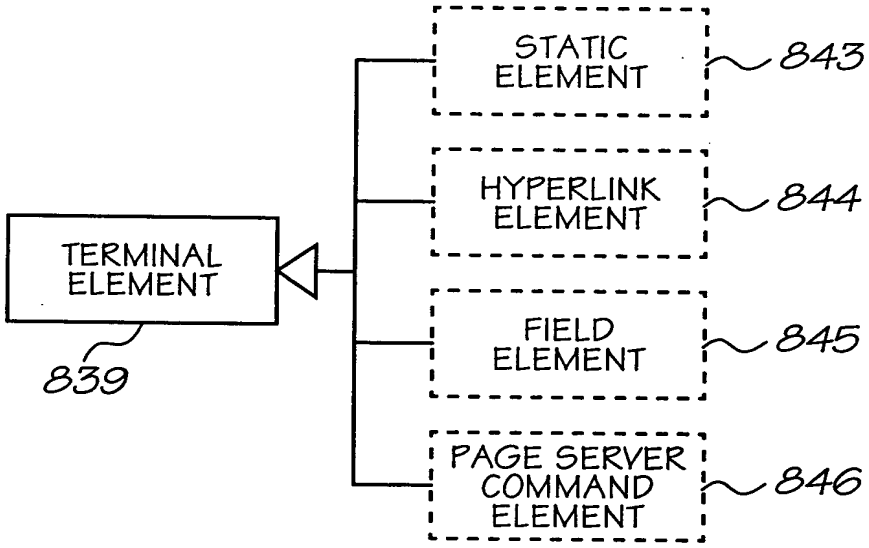
STATIC ELEMENT
843
HYPERLINK ELEMENT
844
TERMINAL ELEMENT
FIELD ELEMENT
845
839
PAGE SERVER COMMAND ELEMENT
846

FIG. 27

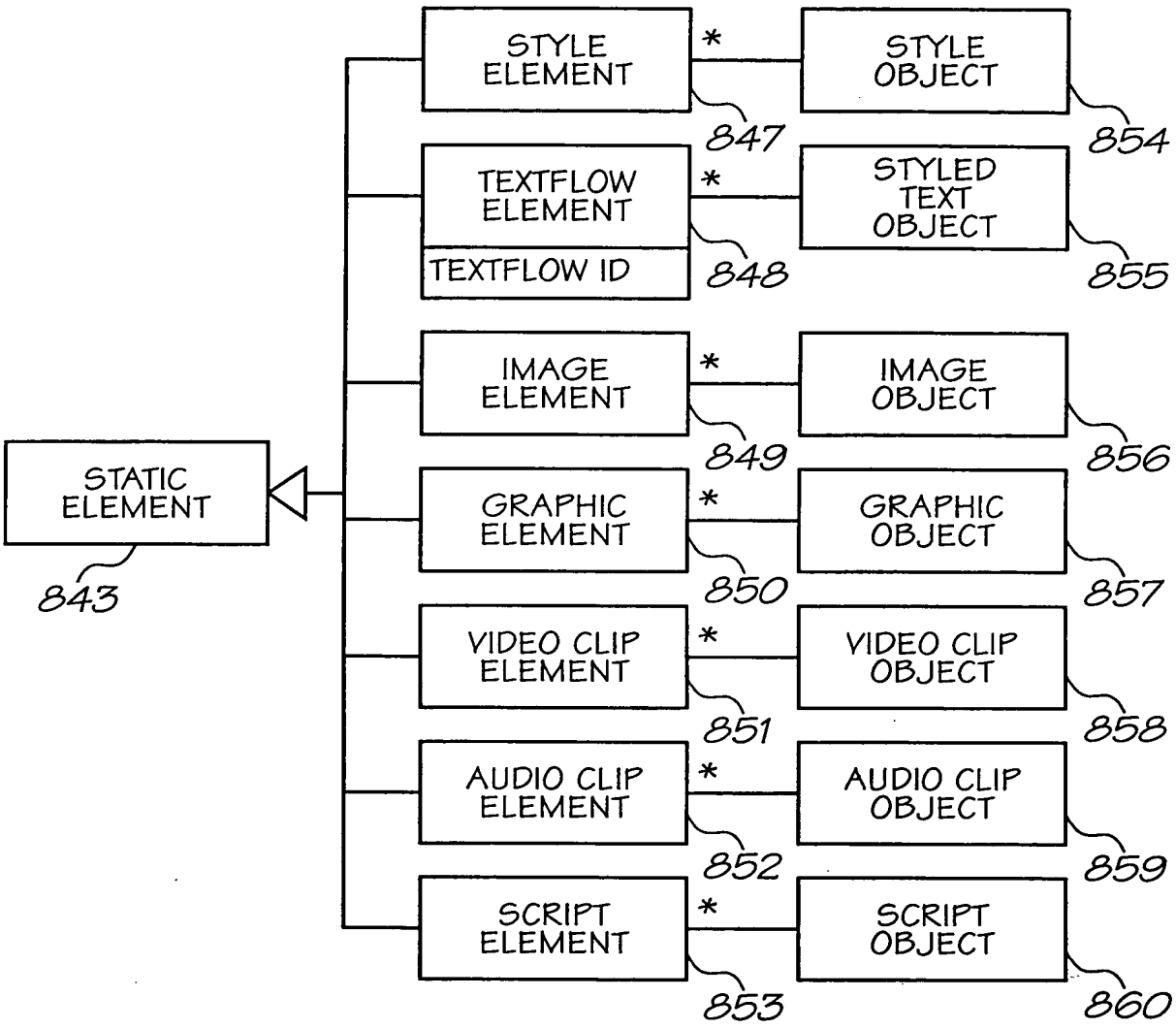
STATIC ELEMENT
843
STYLE ELEMENT
847
TEXTFLOW ELEMENT
TEXTFLOW ID
848
IMAGE ELEMENT
849
GRAPHIC ELEMENT
850
VIDEO CLIP ELEMENT
851
AUDIO CLIP ELEMENT
852
SCRIPT ELEMENT
853
STYLE OBJECT
854
STYLED TEXT OBJECT
855
IMAGE OBJECT
856
GRAPHIC OBJECT
857
VIDEO CLIP OBJECT
858
AUDIO CLIP OBJECT
859
SCRIPT OBJECT
860
*

FIG. 28

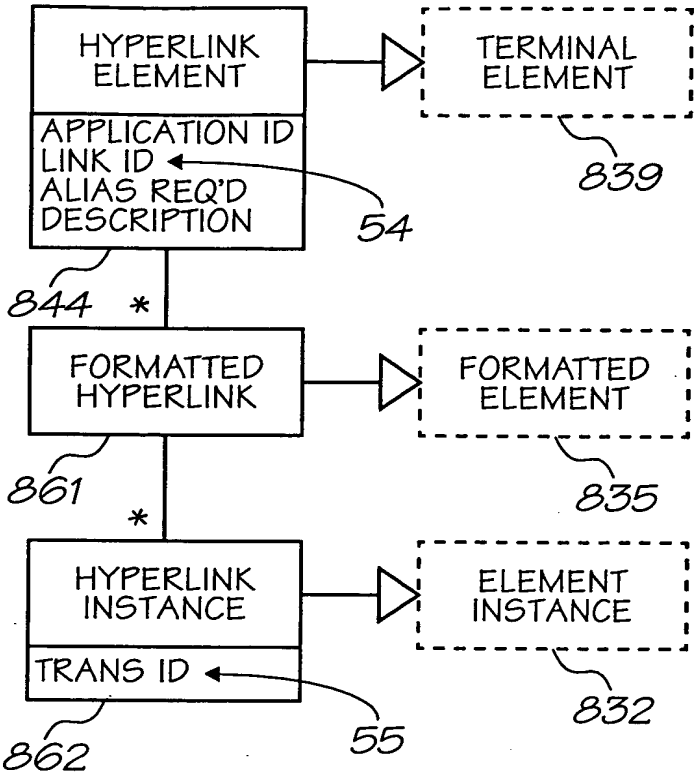
HYPERLINK ELEMENT
APPLICATION ID
LINK ID
ALIAS REQ'D
DESCRIPTION
TERMINAL ELEMENT
839
54
844
*
FORMATTED HYPERLINK
FORMATTED ELEMENT
861
835
*
HYPERLINK INSTANCE
TRANS ID
ELEMENT INSTANCE
832
862
55

FIG. 29

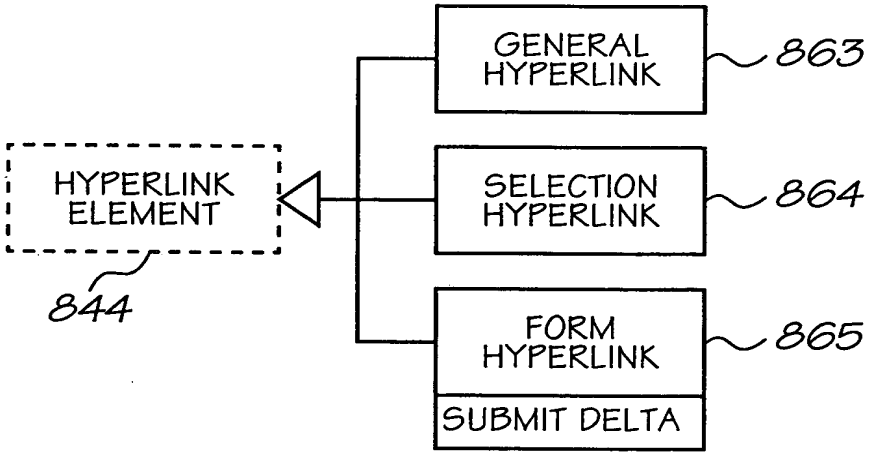
GENERAL HYPERLINK
863
HYPERLINK ELEMENT
SELECTION HYPERLINK
864
844
FORM HYPERLINK
865
SUBMIT DELTA

FIG. 30

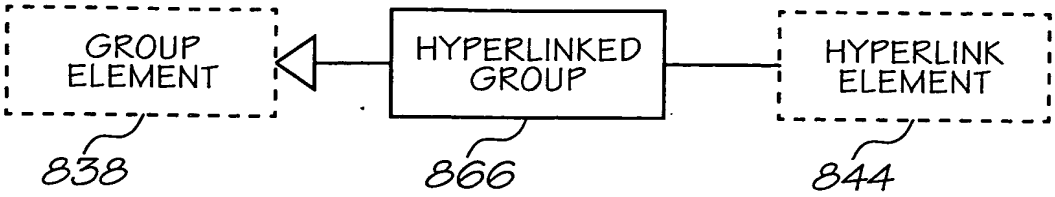
GROUP ELEMENT
HYPERLINKED GROUP
HYPERLINK ELEMENT
838
866
844

FIG. 31

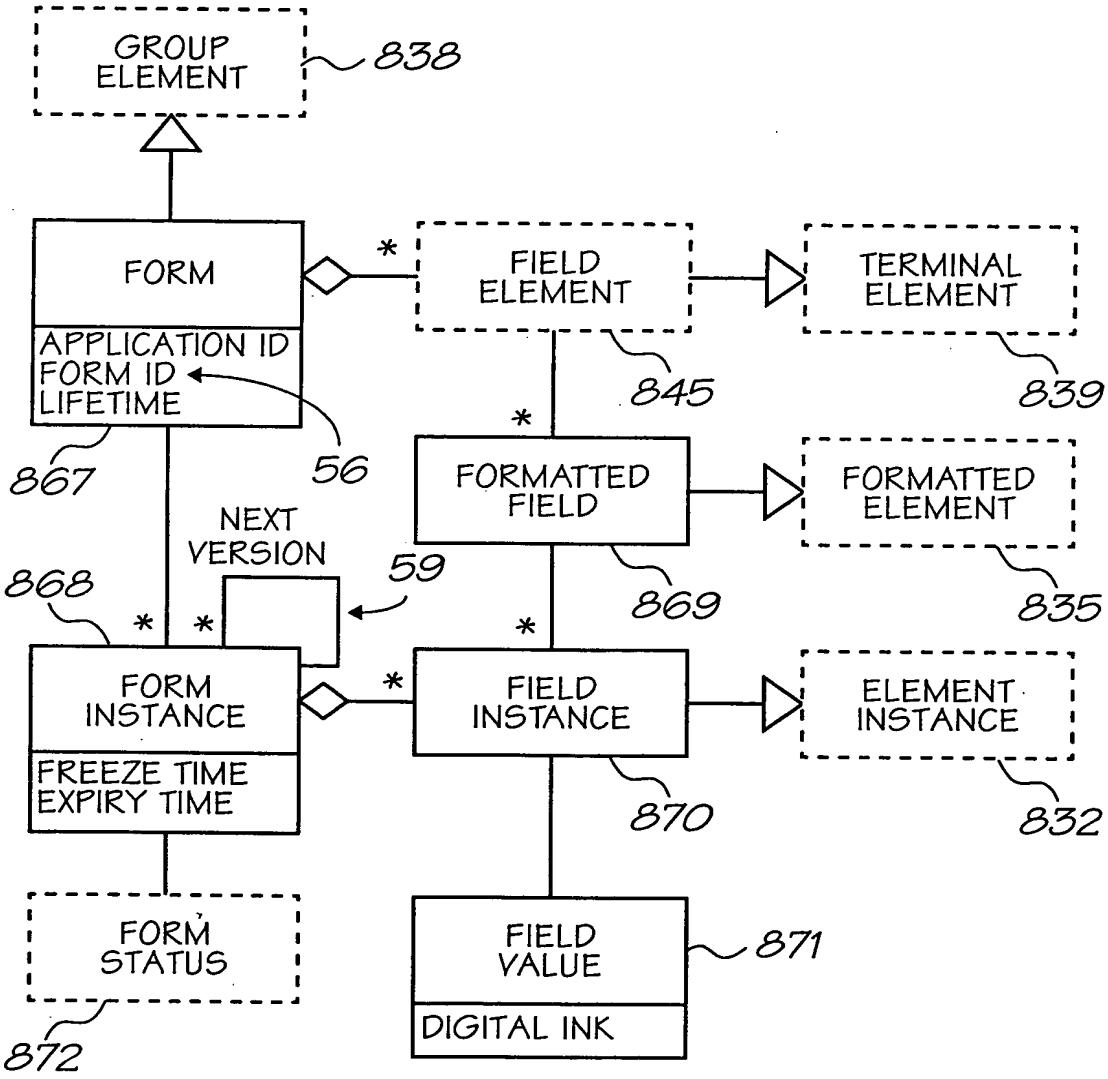
GROUP ELEMENT
838
FORM
APPLICATION ID
FORM ID
LIFETIME
867
56
*
FIELD ELEMENT
845
TERMINAL ELEMENT
839
*
FORMATTED FIELD
869
FORMATTED ELEMENT
835
NEXT VERSION
59
868
*
*
*
FORM INSTANCE
FREEZE TIME
EXPIRY TIME
*
FIELD INSTANCE
870
ELEMENT INSTANCE
832
FORM STATUS
872
FIELD VALUE
DIGITAL INK
871

FIG. 32

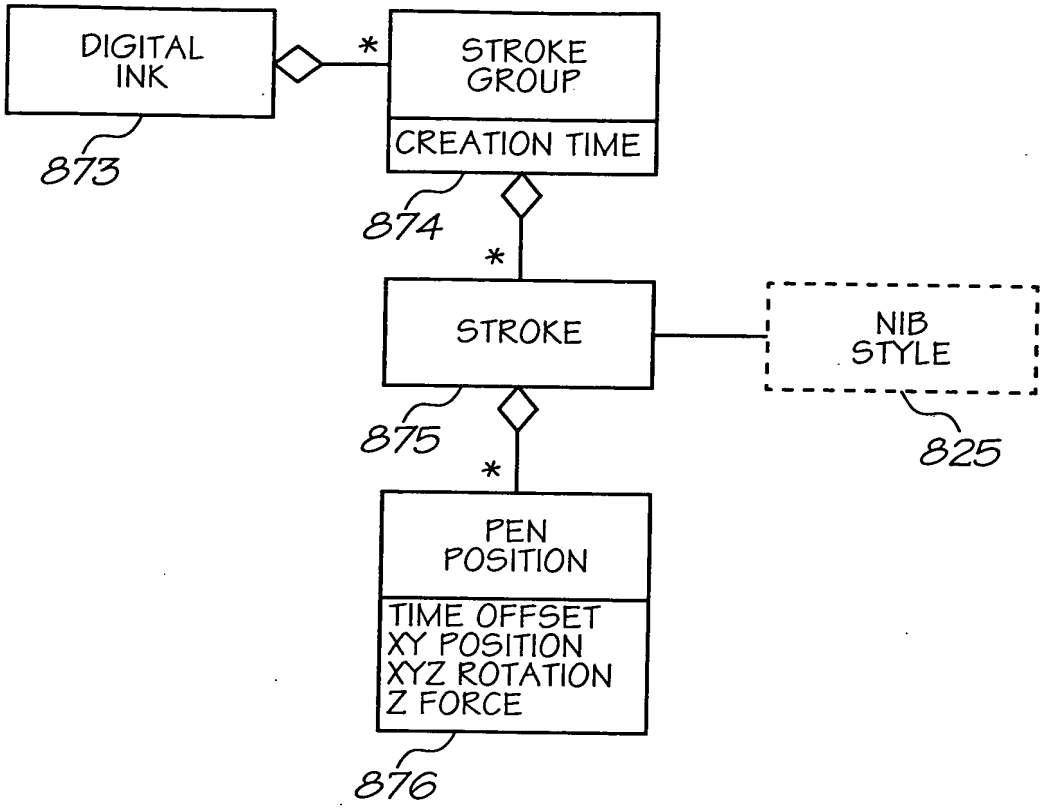
DIGITAL INK
*
STROKE GROUP
CREATION TIME
873
874
*
STROKE
NIB STYLE
875
825
*
PEN POSITION
TIME OFFSET
XY POSITION
XYZ ROTATION
Z FORCE
876

FIG. 33

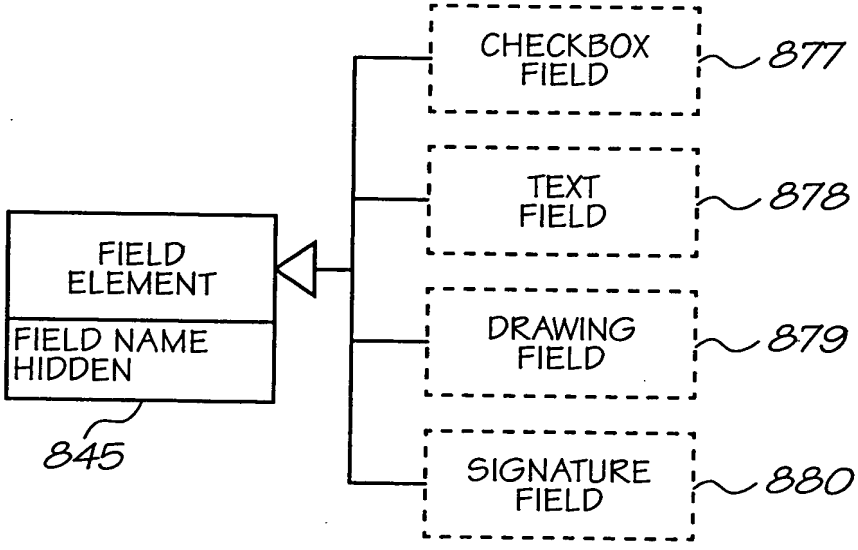
CHECKBOX FIELD
877
TEXT FIELD
878
FIELD ELEMENT
FIELD NAME
HIDDEN
DRAWING FIELD
879
SIGNATURE FIELD
880
845

FIG. 34

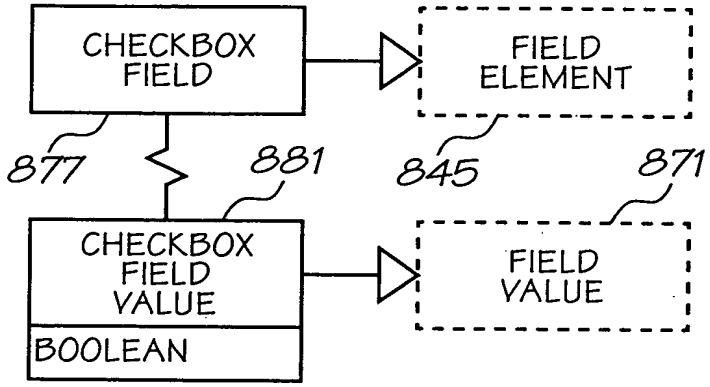

FIG. 35

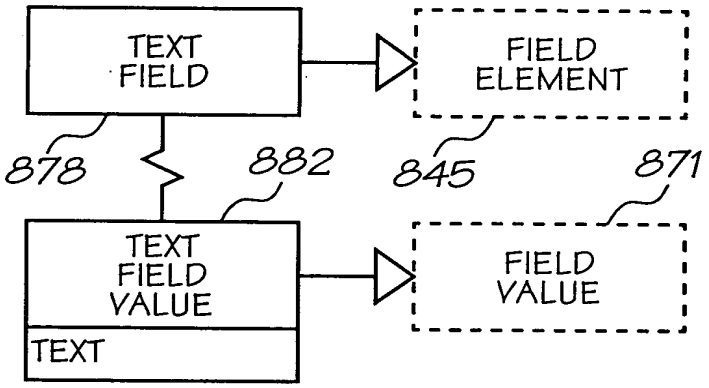

FIG. 36

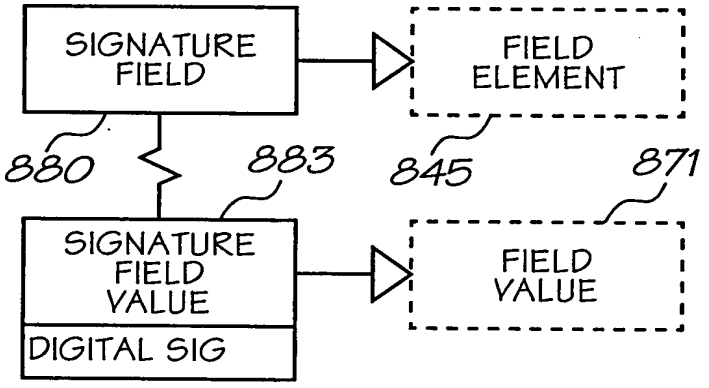

FIG. 37

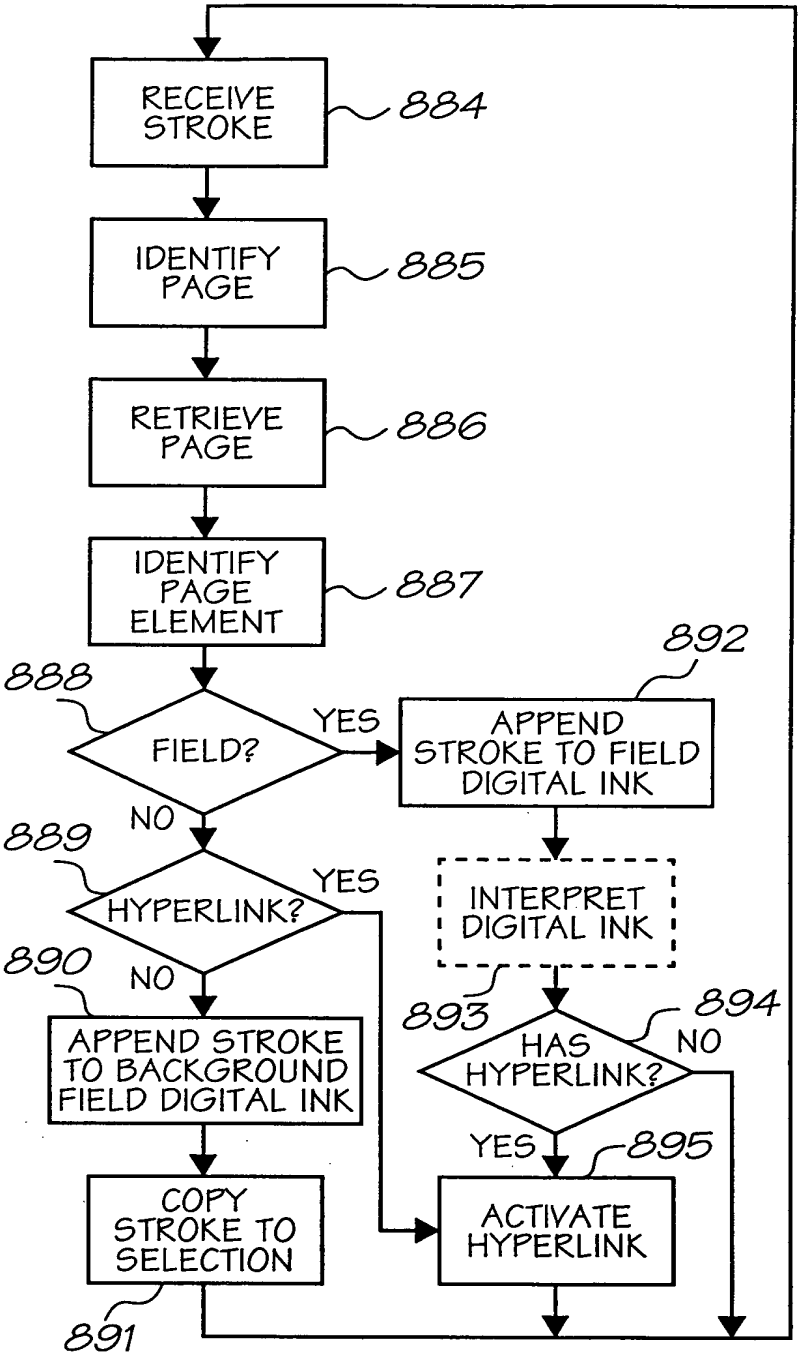
RECEIVE STROKE
884
IDENTIFY PAGE
885
RETRIEVE PAGE
886
IDENTIFY PAGE ELEMENT
887
888
FIELD?
YES
892
APPEND STROKE TO FIELD DIGITAL INK
NO
889
HYPERLINK?
YES
INTERPRET DIGITAL INK
890
NO
893
894
HAS HYPERLINK?
NO
APPEND STROKE TO BACKGROUND FIELD DIGITAL INK
YES
895
COPY STROKE TO SELECTION
ACTIVATE HYPERLINK
891

FIG. 38

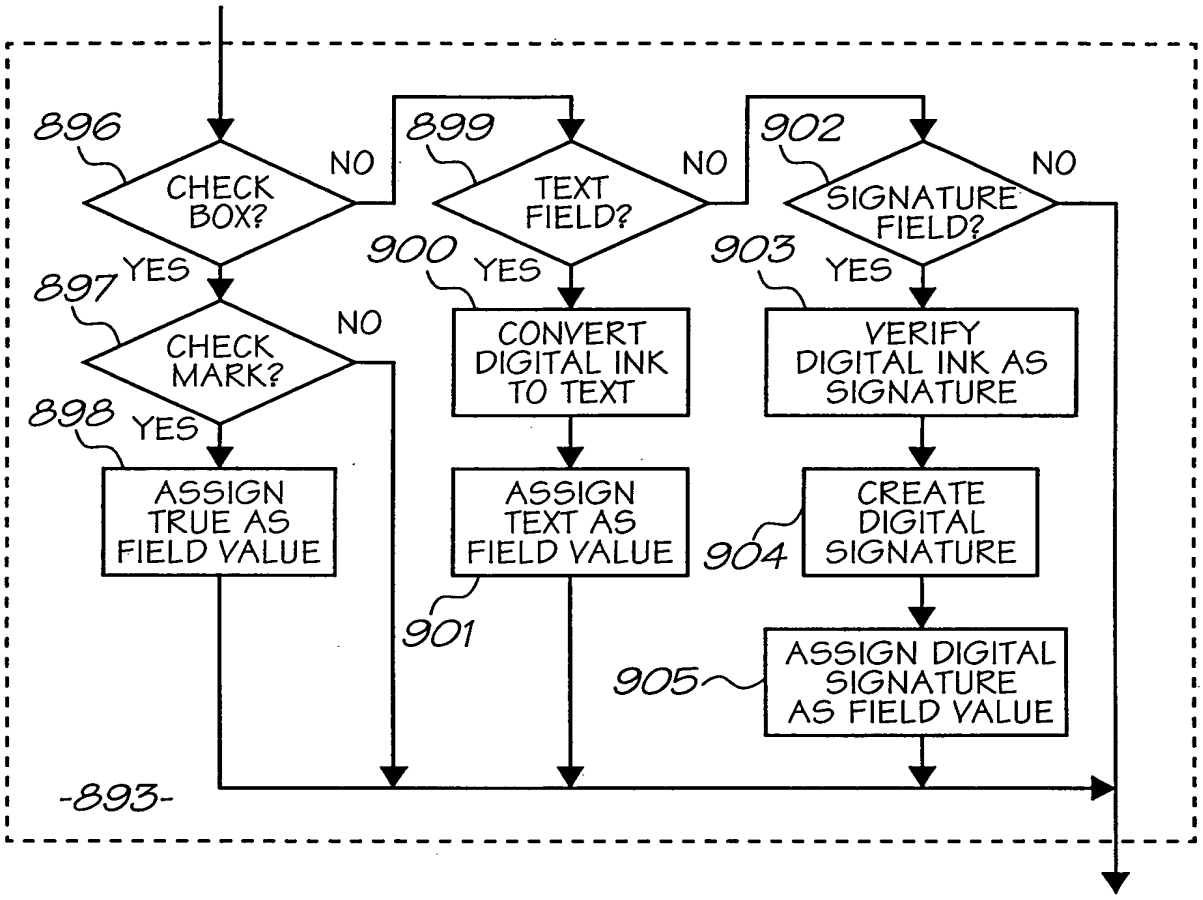
896
CHECK BOX?
NO
899
TEXT FIELD?
NO
902
SIGNATURE FIELD?
NO
YES
897
CHECK MARK?
NO
YES
900
CONVERT DIGITAL INK TO TEXT
YES
903
VERIFY DIGITAL INK AS SIGNATURE
YES
898
ASSIGN TRUE AS FIELD VALUE
ASSIGN TEXT AS FIELD VALUE
901
CREATE DIGITAL SIGNATURE
904
ASSIGN DIGITAL SIGNATURE AS FIELD VALUE
905
-893-

FIG. 38a

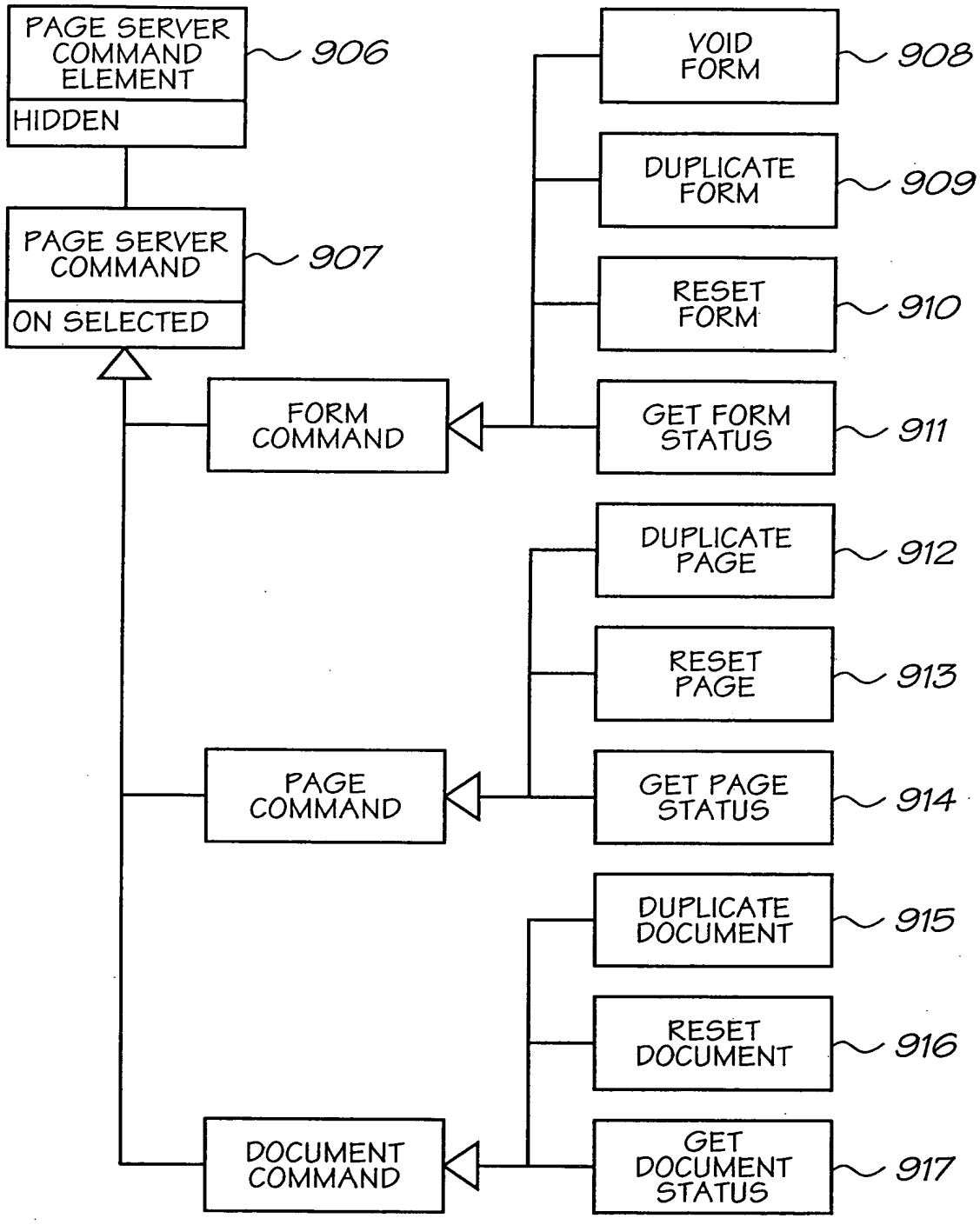
PAGE SERVER COMMAND ELEMENT
HIDDEN
906
PAGE SERVER COMMAND
ON SELECTED
907
FORM COMMAND
PAGE COMMAND
DOCUMENT COMMAND
VOID FORM
908
DUPLICATE FORM
909
RESET FORM
910
GET FORM STATUS
911
DUPLICATE PAGE
912
RESET PAGE
913
GET PAGE STATUS
914
DUPLICATE DOCUMENT
915
RESET DOCUMENT
916
GET DOCUMENT STATUS
917

FIG. 39

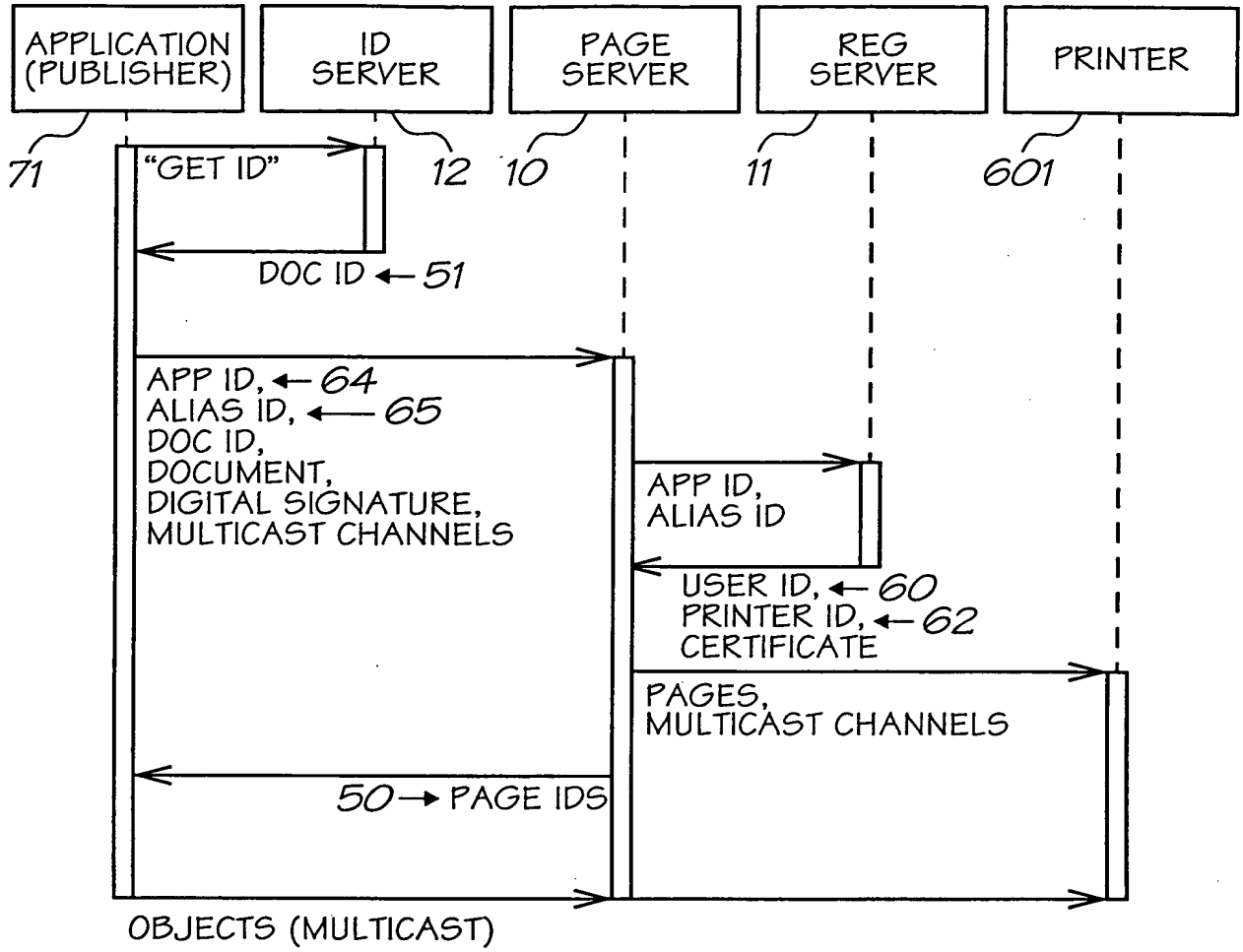
APPLICATION (PUBLISHER)
ID SERVER
PAGE SERVER
REG SERVER
PRINTER
71
12
10
11
601
"GET ID"
DOC ID ← 51
APP ID, ← 64
ALIAS ID, ← 65
DOC ID,
DOCUMENT,
DIGITAL SIGNATURE,
MULTICAST CHANNELS
APP ID,
ALIAS ID
USER ID, ← 60
PRINTER ID, ← 62
CERTIFICATE
PAGES,
MULTICAST CHANNELS
50 → PAGE IDS
OBJECTS (MULTICAST)

FIG. 40

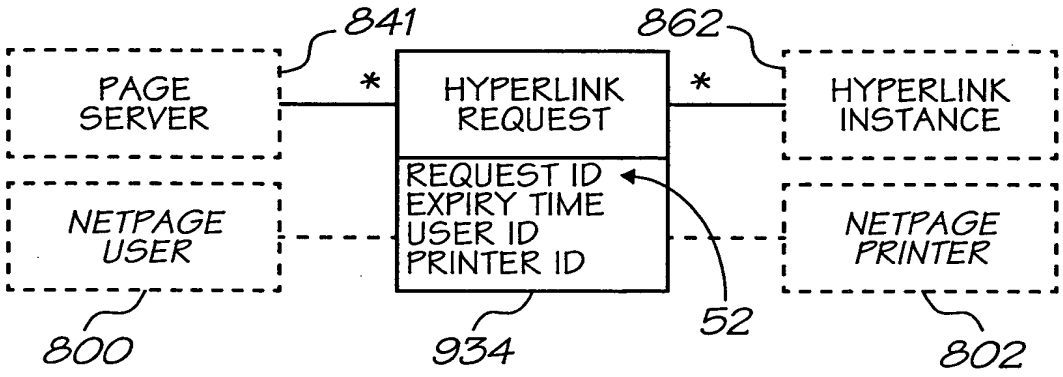
841
862
PAGE SERVER
*
HYPERLINK REQUEST
*
HYPERLINK INSTANCE
REQUEST ID
EXPIRY TIME
USER ID
PRINTER ID
NETPAGE USER
NETPAGE PRINTER
52
800
934
802

FIG. 41

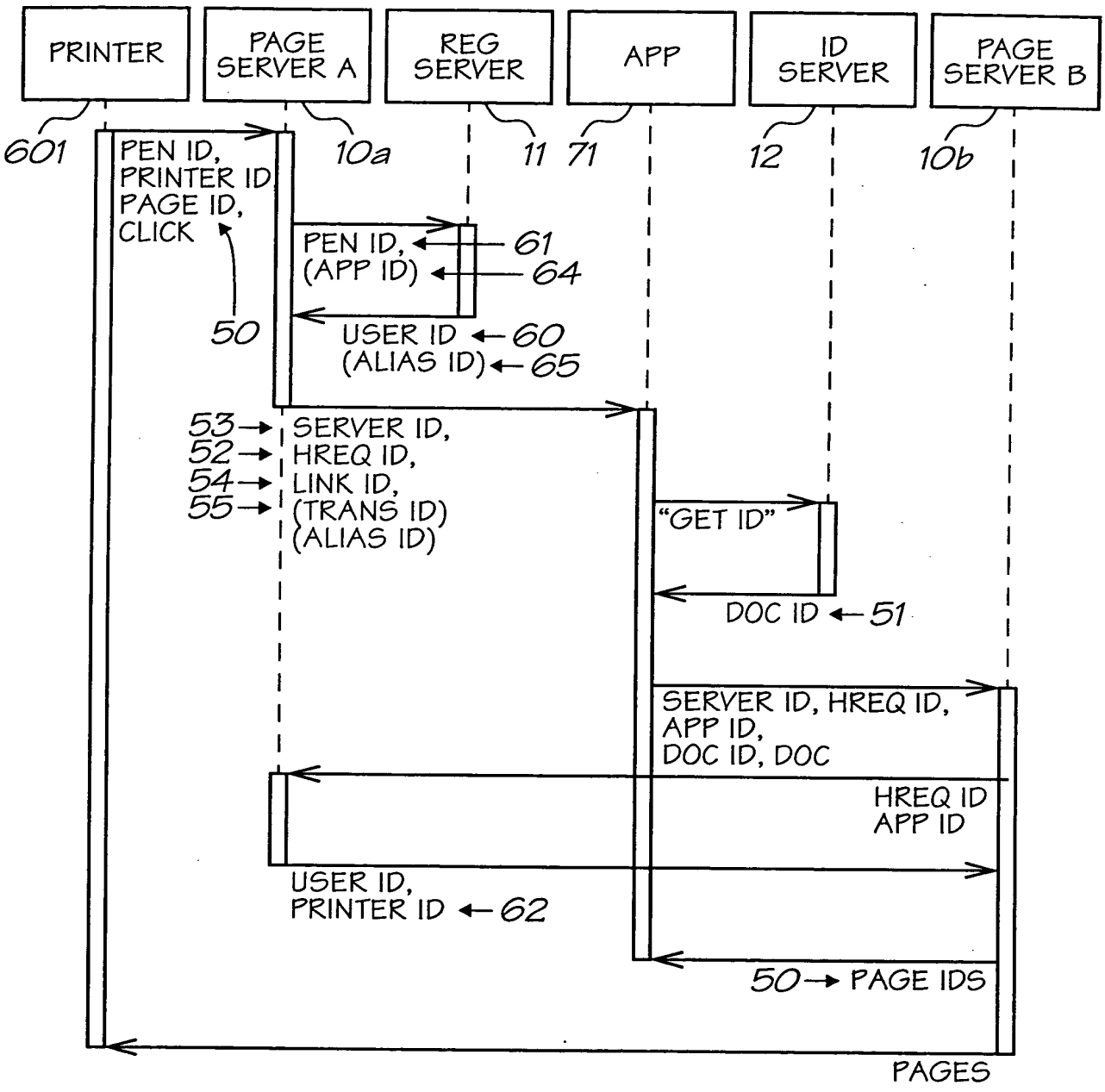
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID, 61
(APP ID) 64
USER ID 60
(ALIAS ID) 65
53 SERVER ID,
52 HREQ ID,
54 LINK ID,
55 (TRANS ID)
(ALIAS ID)
"GET ID"
DOC ID 51
SERVER ID, HREQ ID,
APP ID,
DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID 62
50 PAGE IDS
PAGES

FIG. 42

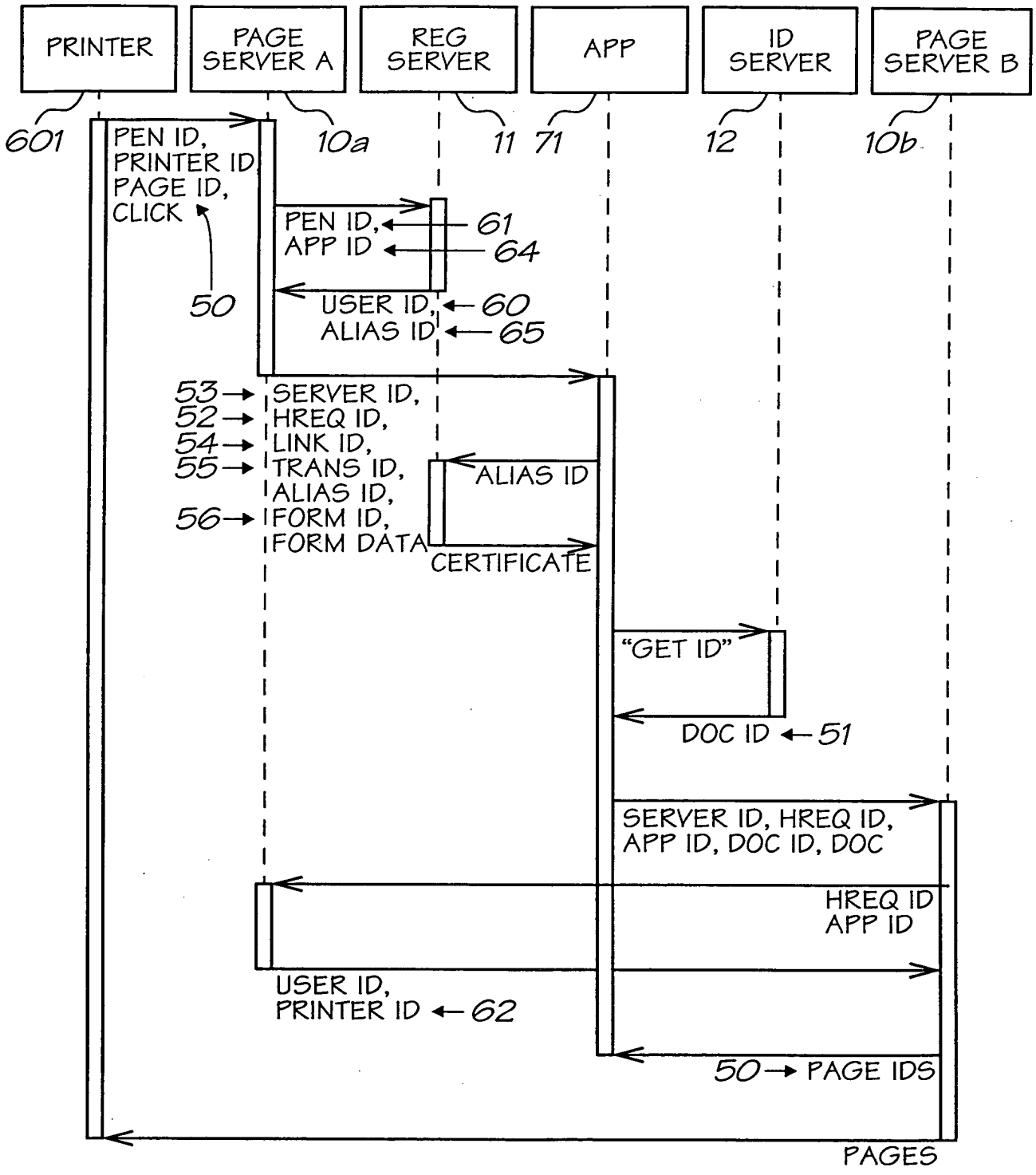
PRINTER
PAGE SERVER A
REG SERVER
APP
ID SERVER
PAGE SERVER B
601
10a
11
71
12
10b
PEN ID,
PRINTER ID
PAGE ID,
CLICK
50
PEN ID,
APP ID
61
64
USER ID,
ALIAS ID
60
65
53
52
54
55
56
SERVER ID,
HREQ ID,
LINK ID,
TRANS ID,
ALIAS ID,
FORM ID,
FORM DATA
ALIAS ID
CERTIFICATE
"GET ID"
DOC ID
51
SERVER ID, HREQ ID,
APP ID, DOC ID, DOC
HREQ ID
APP ID
USER ID,
PRINTER ID
62
50
PAGE IDS
PAGES

FIG. 43

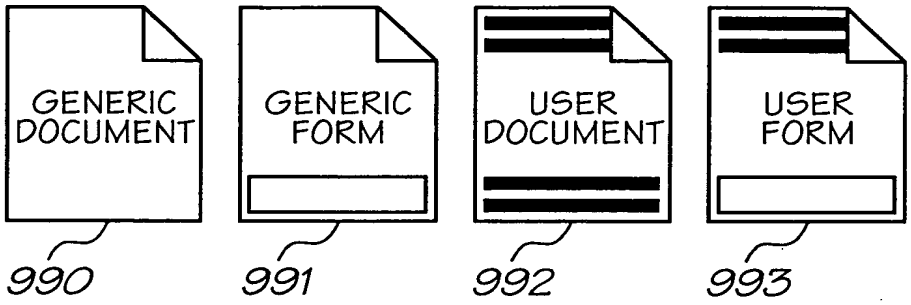
GENERIC DOCUMENT
GENERIC FORM
USER DOCUMENT
USER FORM
990
991
992
993

FIG. 44

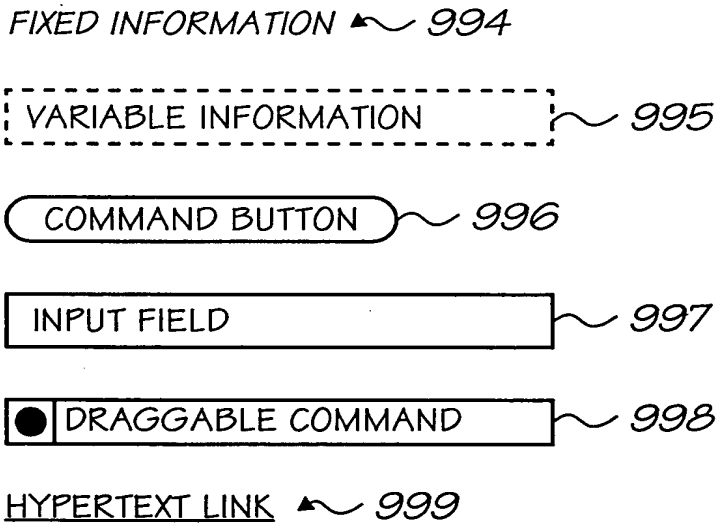
FIXED INFORMATION
994
VARIABLE INFORMATION
995
COMMAND BUTTON
996
INPUT FIELD
997
DRAGGABLE COMMAND
998
HYPERTEXT LINK
999

FIG. 45

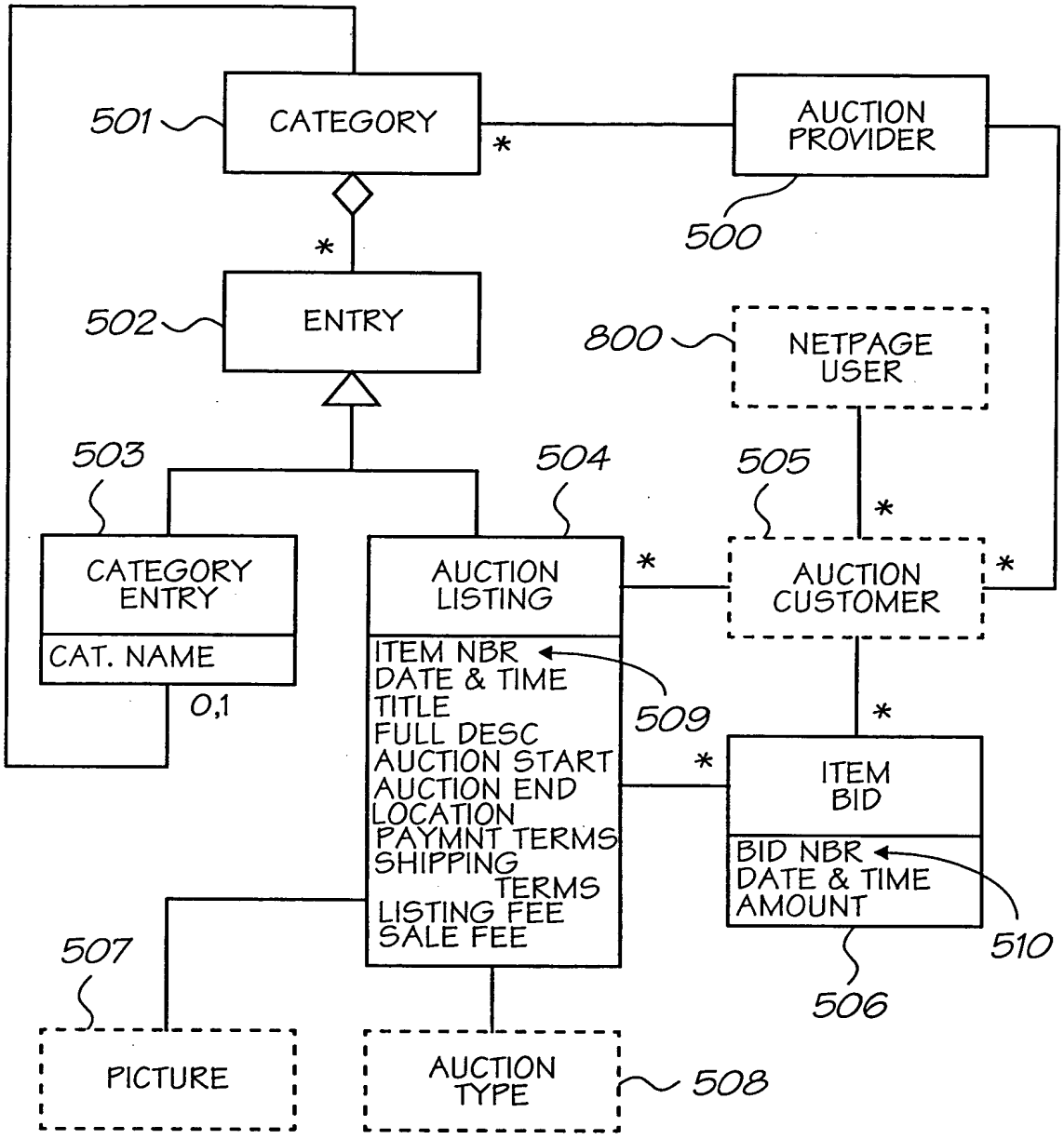
501
CATEGORY
AUCTION PROVIDER
500
502
ENTRY
800
NETPAGE USER
503
504
505
CATEGORY ENTRY
CAT. NAME
0,1
AUCTION LISTING
ITEM NBR
DATE & TIME
TITLE
FULL DESC
AUCTION START
AUCTION END
LOCATION
PAYMNT TERMS
SHIPPING TERMS
LISTING FEE
SALE FEE
509
AUCTION CUSTOMER
ITEM BID
BID NBR
DATE & TIME
AMOUNT
510
506
507
PICTURE
AUCTION TYPE
508

FIG. 46

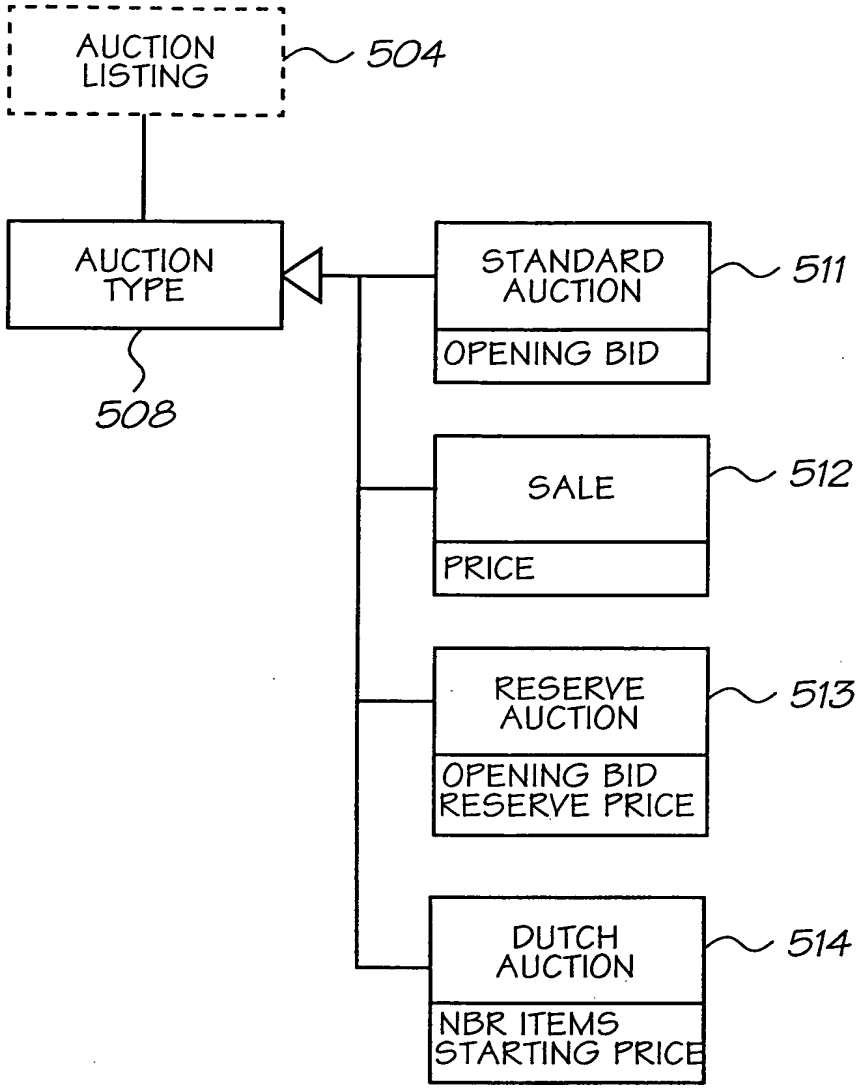
AUCTION LISTING
504
AUCTION TYPE
508
STANDARD AUCTION
OPENING BID
511
SALE
PRICE
512
RESERVE AUCTION
OPENING BID
RESERVE PRICE
513
DUTCH AUCTION
NBR ITEMS
STARTING PRICE
514

FIG. 47

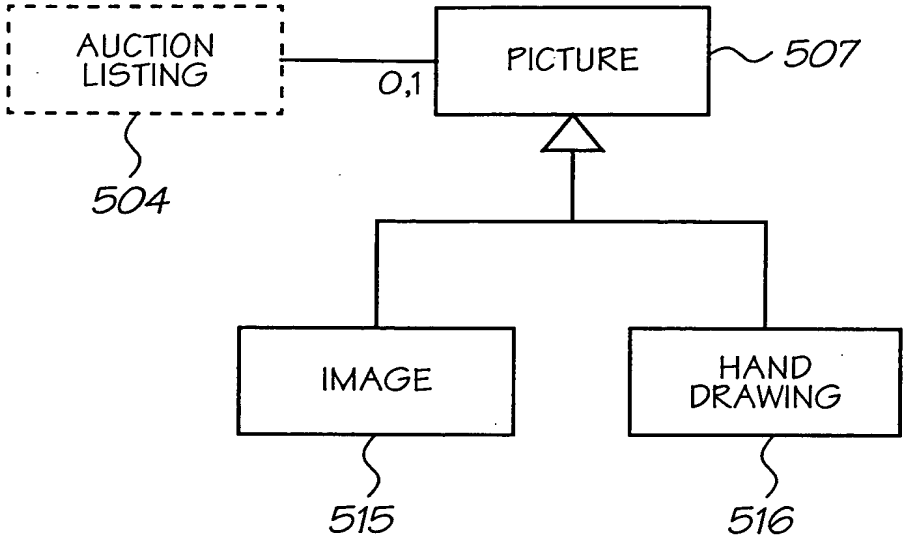
AUCTION LISTING
0,1
PICTURE
507
504
IMAGE
HAND DRAWING
515
516

FIG. 48

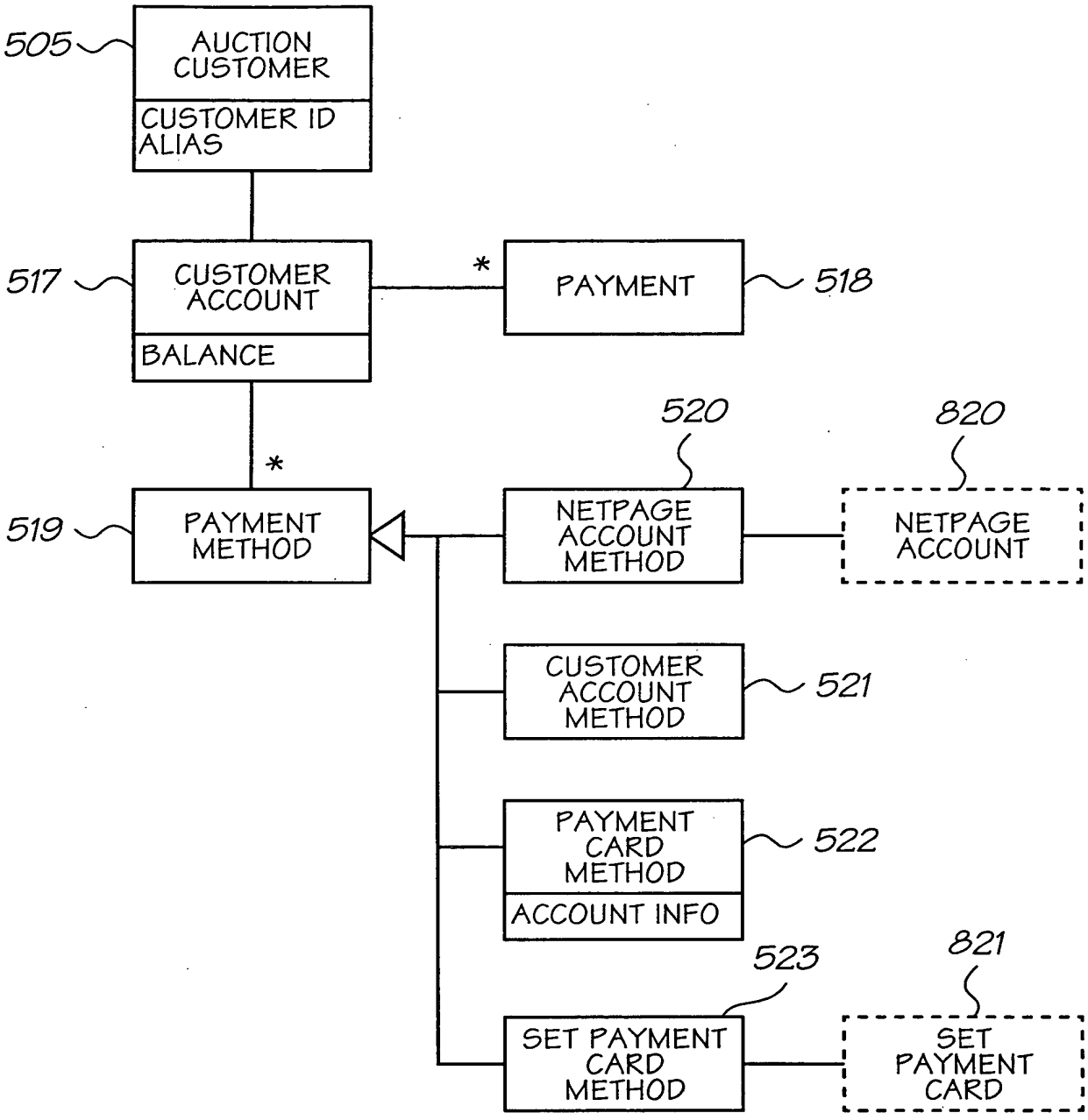
505
AUCTION CUSTOMER
CUSTOMER ID
ALIAS
517
CUSTOMER ACCOUNT
BALANCE
*
PAYMENT
518
*
519
PAYMENT METHOD
520
NETPAGE ACCOUNT METHOD
820
NETPAGE ACCOUNT
CUSTOMER ACCOUNT METHOD
521
PAYMENT CARD METHOD
ACCOUNT INFO
522
523
SET PAYMENT CARD METHOD
821
SET PAYMENT CARD

FIG. 49

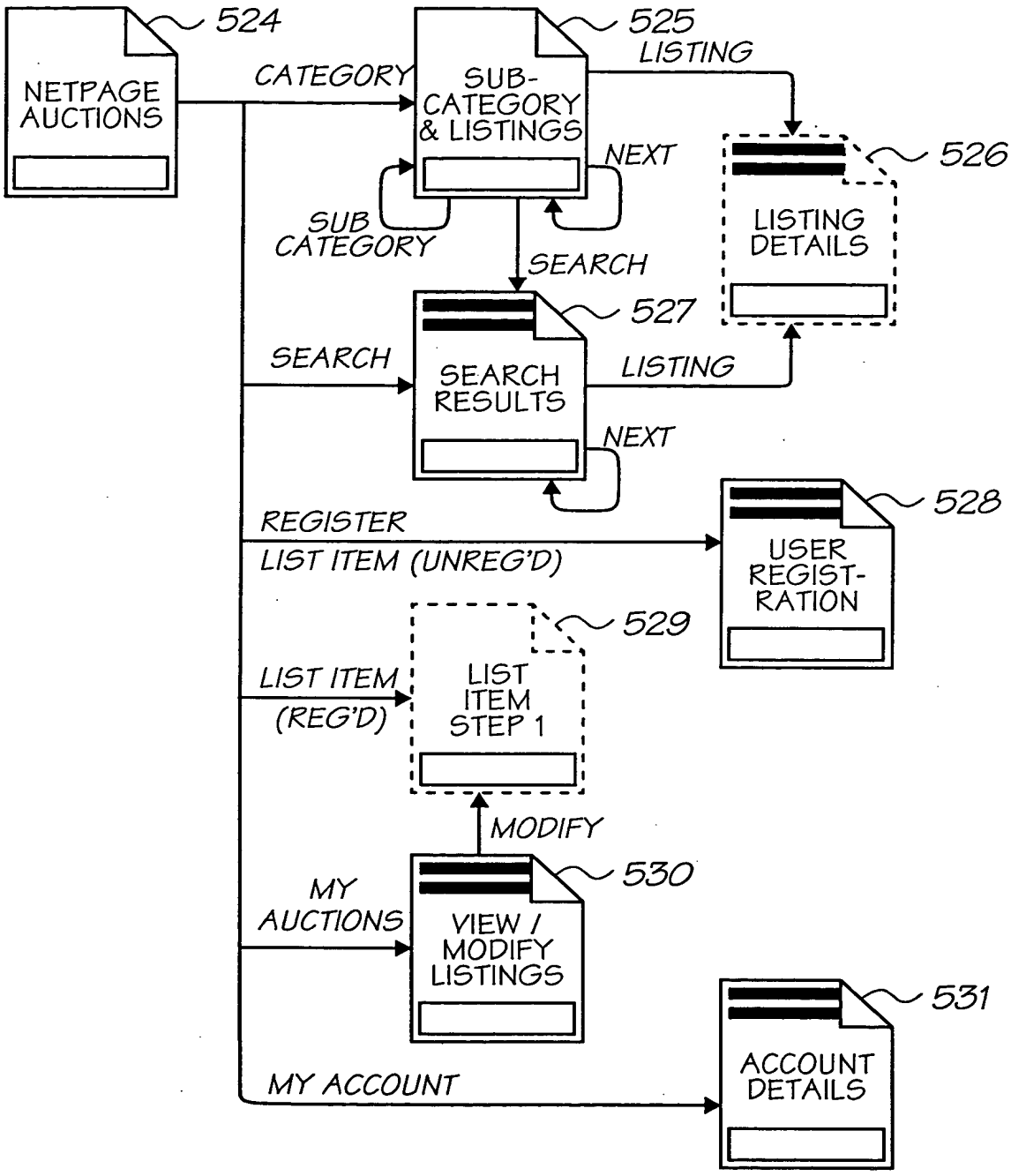
524
NETPAGE AUCTIONS
CATEGORY
525
SUB-CATEGORY & LISTINGS
LISTING
526
LISTING DETAILS
NEXT
SUB CATEGORY
SEARCH
527
SEARCH RESULTS
SEARCH
LISTING
NEXT
528
USER REGIST-RATION
REGISTER
LIST ITEM (UNREG'D)
529
LIST ITEM STEP 1
LIST ITEM (REG'D)
MODIFY
530
VIEW / MODIFY LISTINGS
MY AUCTIONS
531
ACCOUNT DETAILS
MY ACCOUNT

FIG. 50

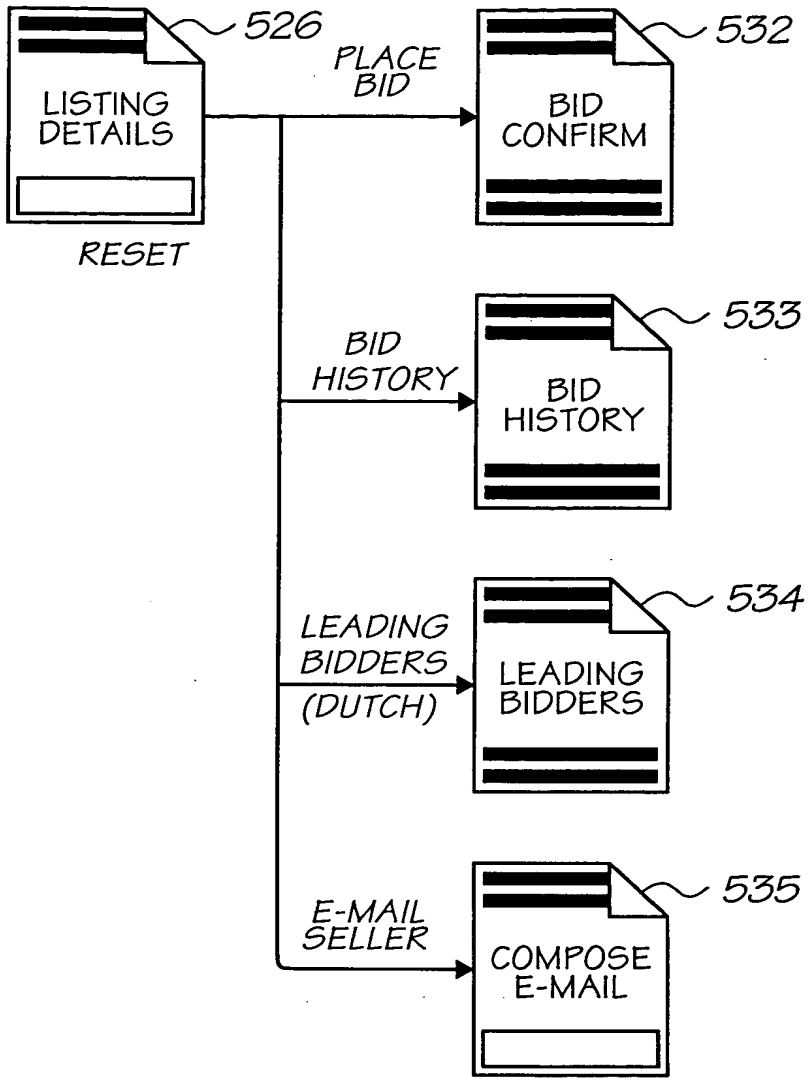
526
LISTING DETAILS
RESET
PLACE BID
532
BID CONFIRM
BID HISTORY
533
BID HISTORY
LEADING BIDDERS (DUTCH)
534
LEADING BIDDERS
E-MAIL SELLER
535
COMPOSE E-MAIL

FIG. 51

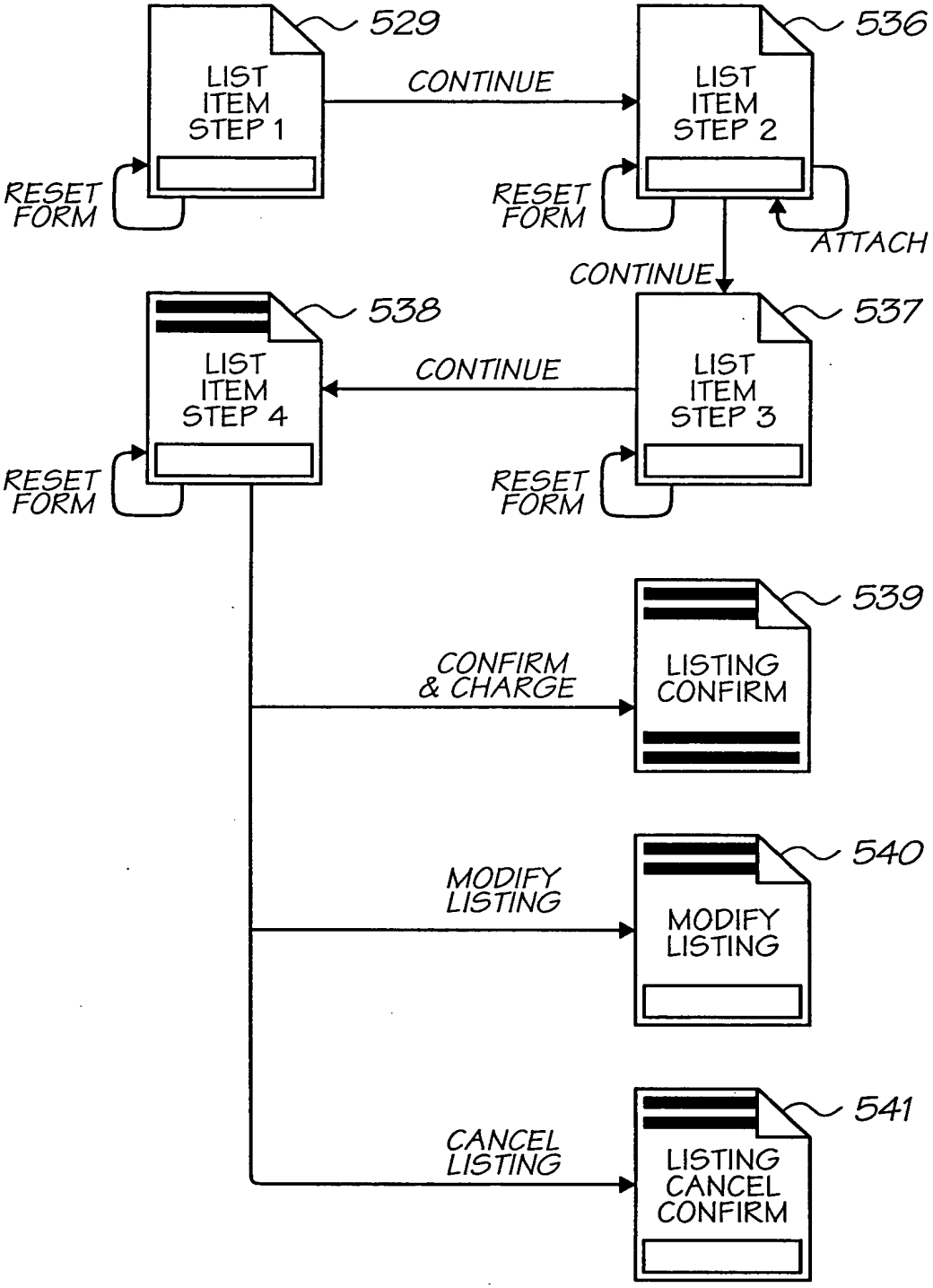
529
LIST ITEM STEP 1
CONTINUE
536
LIST ITEM STEP 2
RESET FORM
RESET FORM
ATTACH
CONTINUE
538
LIST ITEM STEP 4
CONTINUE
537
LIST ITEM STEP 3
RESET FORM
RESET FORM
539
CONFIRM & CHARGE
LISTING CONFIRM
540
MODIFY LISTING
MODIFY LISTING
541
CANCEL LISTING
LISTING CANCEL CONFIRM

FIG. 52

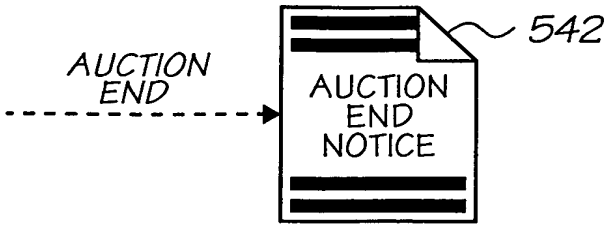

FIG. 53

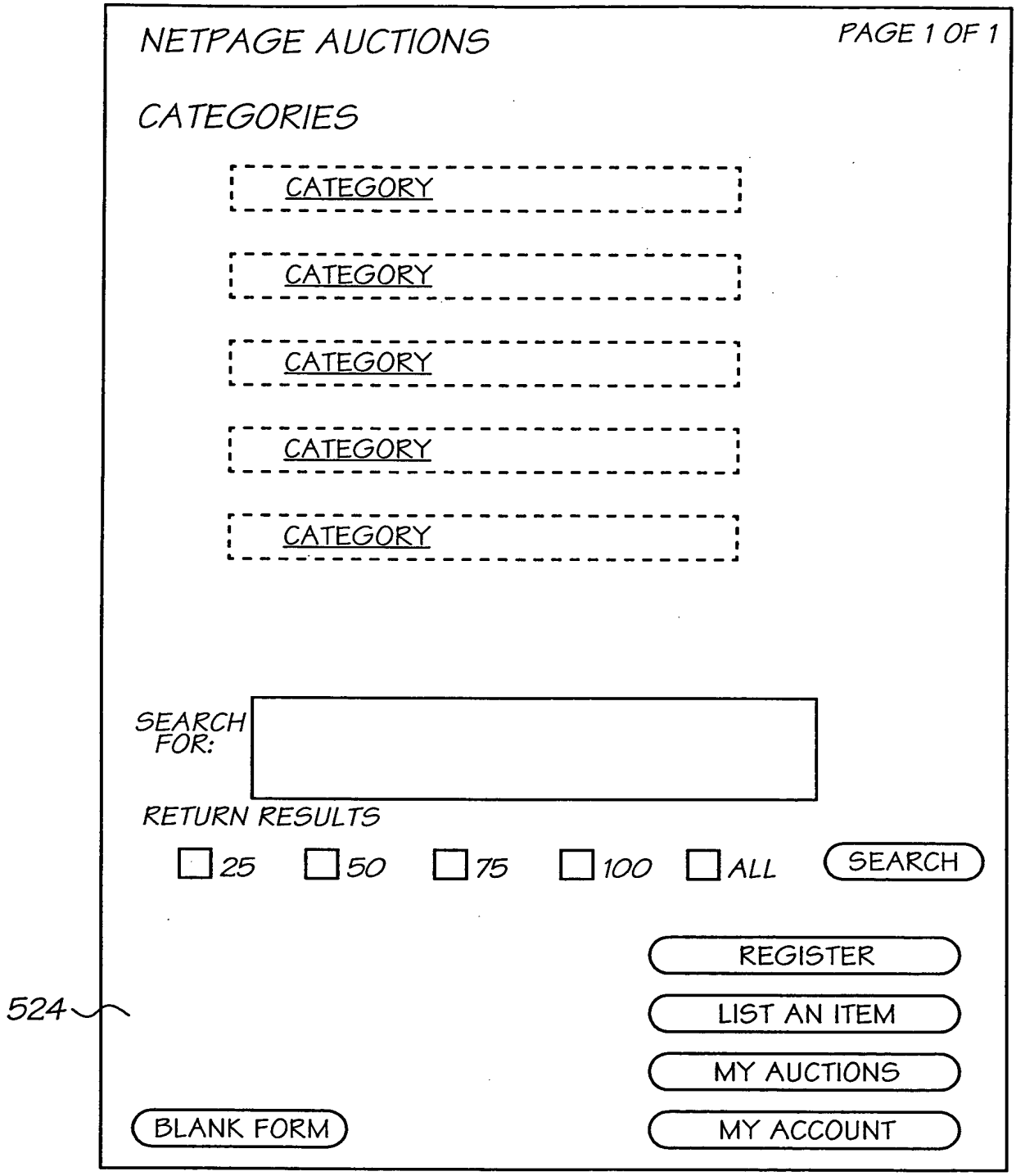
NETPAGE AUCTIONS
PAGE 1 OF 1
CATEGORIES
CATEGORY
CATEGORY
CATEGORY
CATEGORY
CATEGORY
SEARCH FOR:
RETURN RESULTS
25
50
75
100
ALL
SEARCH
REGISTER
LIST AN ITEM
MY AUCTIONS
MY ACCOUNT
BLANK FORM
524

FIG. 54

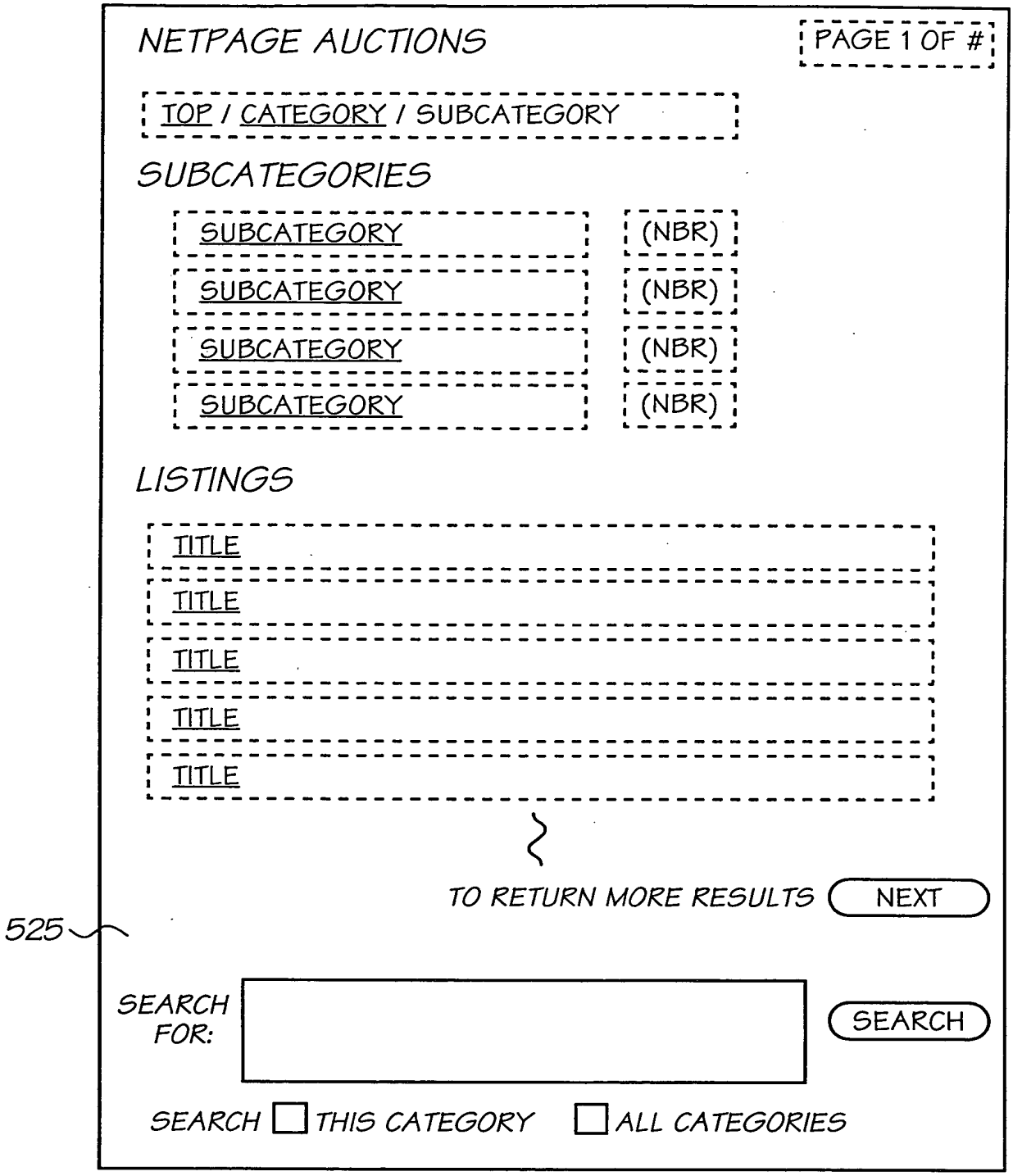
NETPAGE AUCTIONS
PAGE 1 OF #
TOP / CATEGORY / SUBCATEGORY
SUBCATEGORIES
SUBCATEGORY
(NBR)
SUBCATEGORY
(NBR)
SUBCATEGORY
(NBR)
SUBCATEGORY
(NBR)
LISTINGS
TITLE
TITLE
TITLE
TITLE
TITLE
TO RETURN MORE RESULTS
NEXT
525
SEARCH FOR:
SEARCH
SEARCH THIS CATEGORY
ALL CATEGORIES

FIG. 55

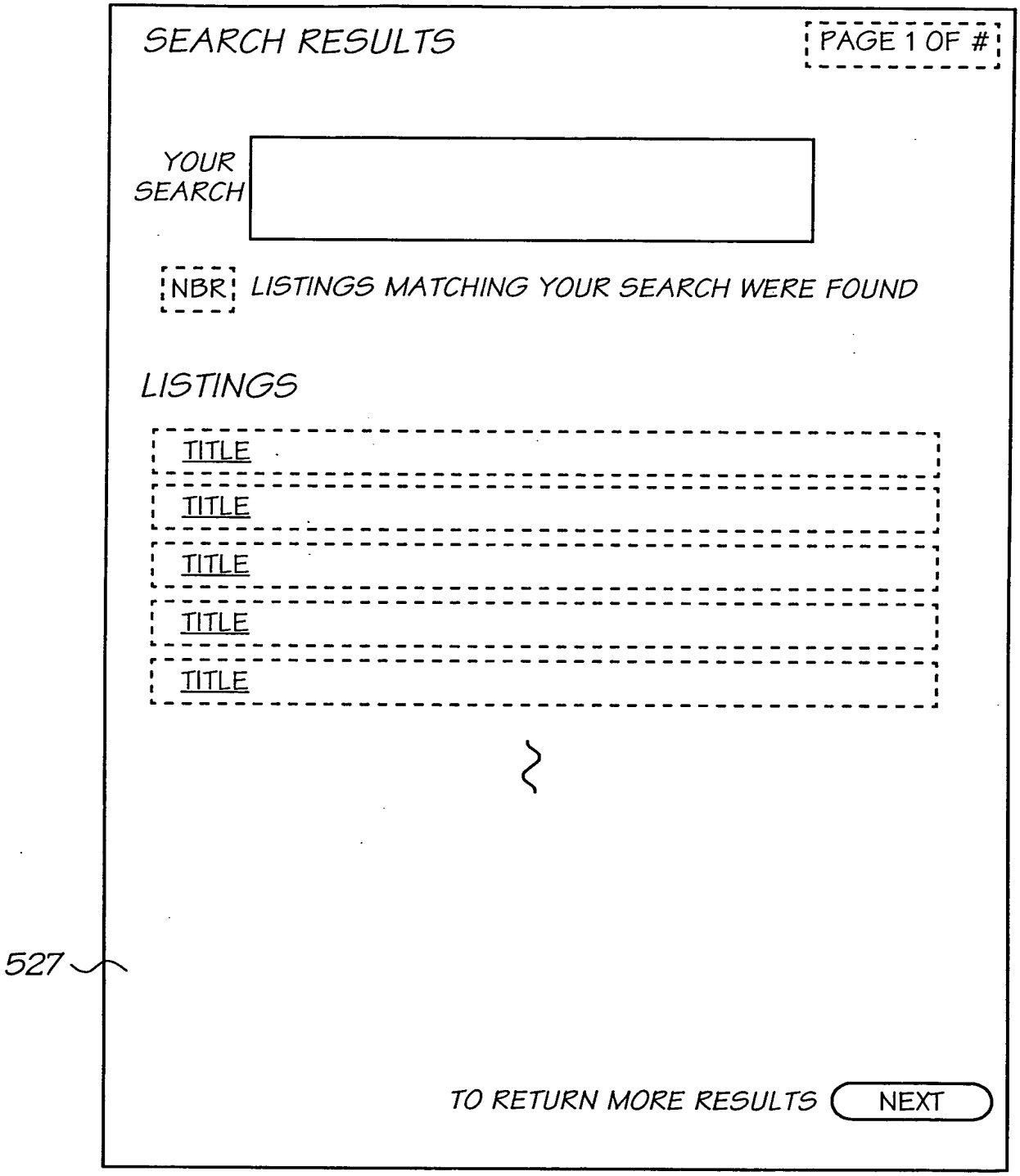
SEARCH RESULTS
PAGE 1 OF #
YOUR SEARCH
NBR
LISTINGS MATCHING YOUR SEARCH WERE FOUND
LISTINGS
TITLE
TITLE
TITLE
TITLE
TITLE
527
TO RETURN MORE RESULTS
NEXT

FIG. 56

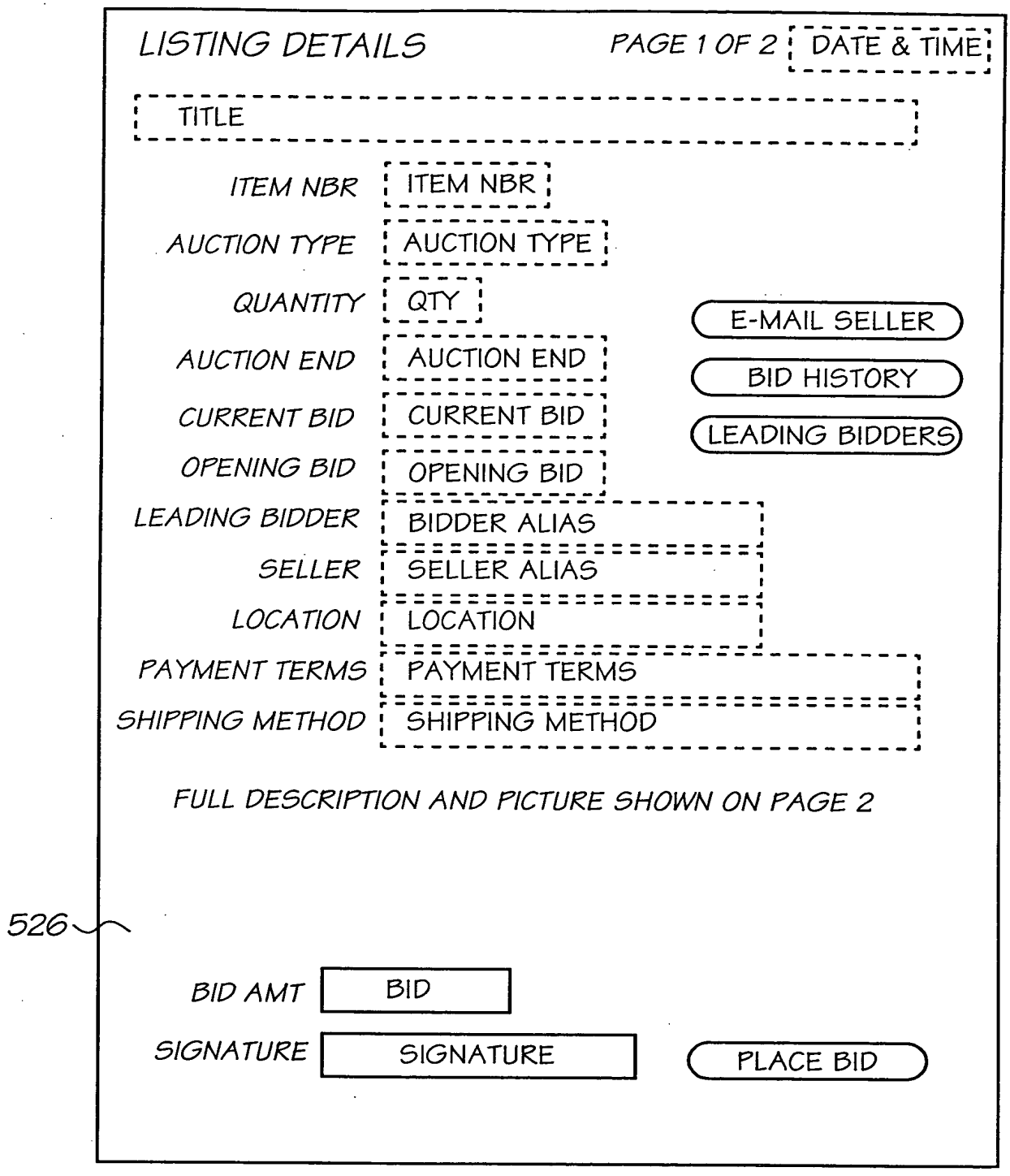
LISTING DETAILS
PAGE 1 OF 2
DATE & TIME
TITLE
ITEM NBR
ITEM NBR
AUCTION TYPE
AUCTION TYPE
QUANTITY
QTY
AUCTION END
AUCTION END
CURRENT BID
CURRENT BID
OPENING BID
OPENING BID
LEADING BIDDER
BIDDER ALIAS
SELLER
SELLER ALIAS
LOCATION
LOCATION
PAYMENT TERMS
PAYMENT TERMS
SHIPPING METHOD
SHIPPING METHOD
E-MAIL SELLER
BID HISTORY
LEADING BIDDERS
FULL DESCRIPTION AND PICTURE SHOWN ON PAGE 2
526
BID AMT
BID
SIGNATURE
SIGNATURE
PLACE BID

FIG. 57

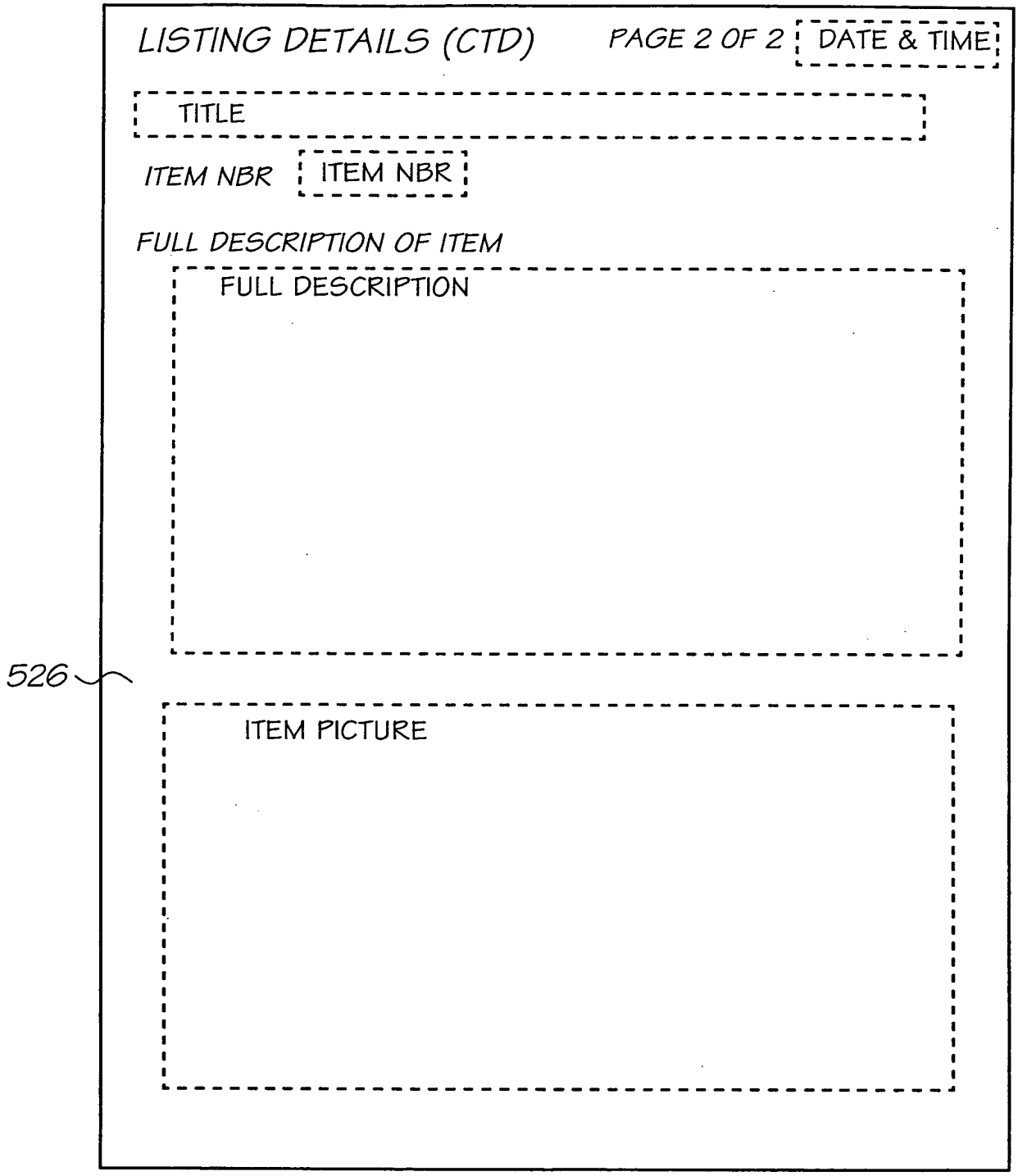
LISTING DETAILS (CTD)
PAGE 2 OF 2
DATE & TIME
TITLE
ITEM NBR
ITEM NBR
FULL DESCRIPTION OF ITEM
FULL DESCRIPTION
526
ITEM PICTURE

FIG. 58

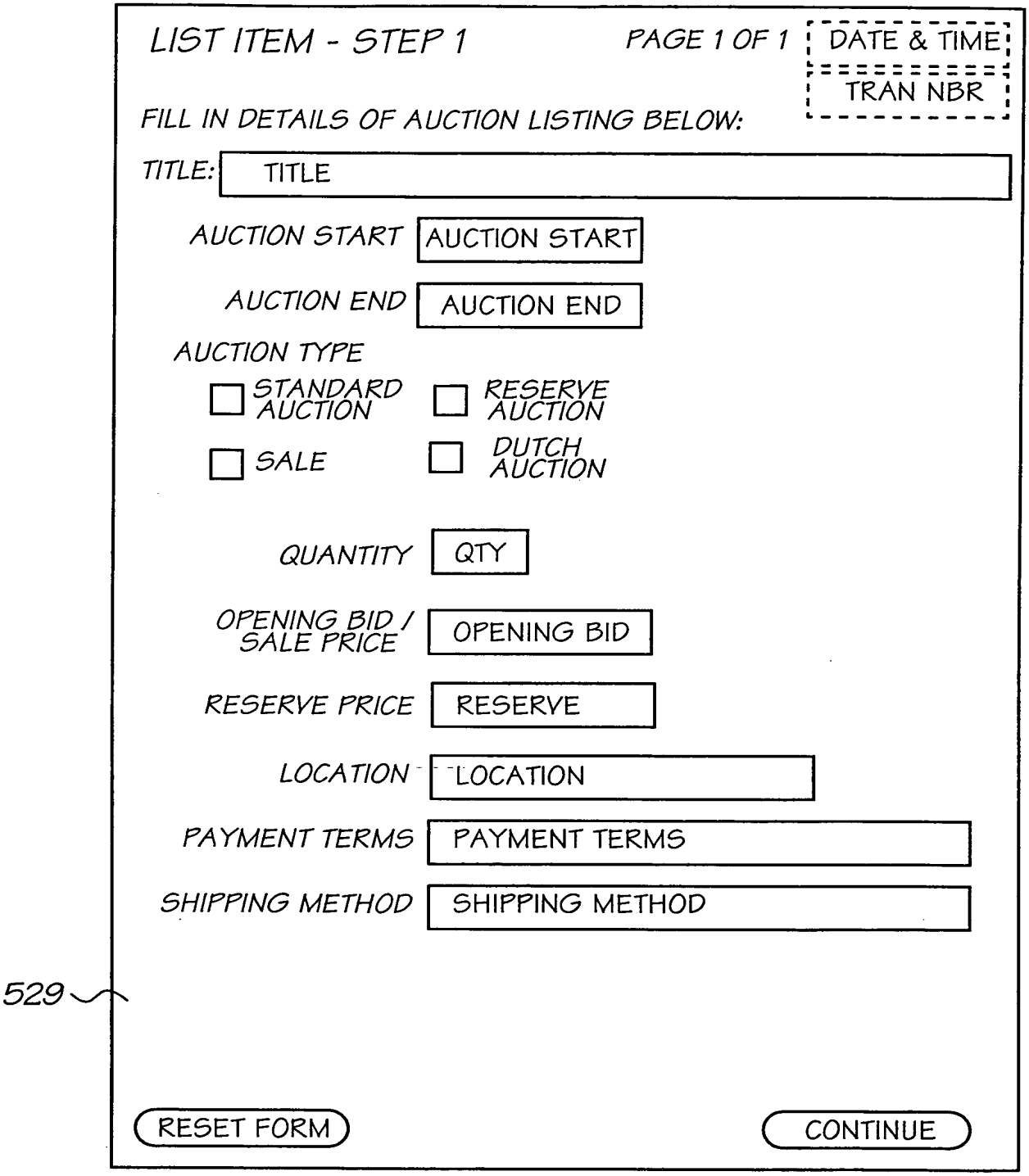
LIST ITEM - STEP 1
PAGE 1 OF 1
DATE & TIME
TRAN NBR
FILL IN DETAILS OF AUCTION LISTING BELOW:
TITLE:
TITLE
AUCTION START
AUCTION START
AUCTION END
AUCTION END
AUCTION TYPE
STANDARD AUCTION
RESERVE AUCTION
SALE
DUTCH AUCTION
QUANTITY
QTY
OPENING BID / SALE PRICE
OPENING BID
RESERVE PRICE
RESERVE
LOCATION
LOCATION
PAYMENT TERMS
PAYMENT TERMS
SHIPPING METHOD
SHIPPING METHOD
529
RESET FORM
CONTINUE

FIG. 59

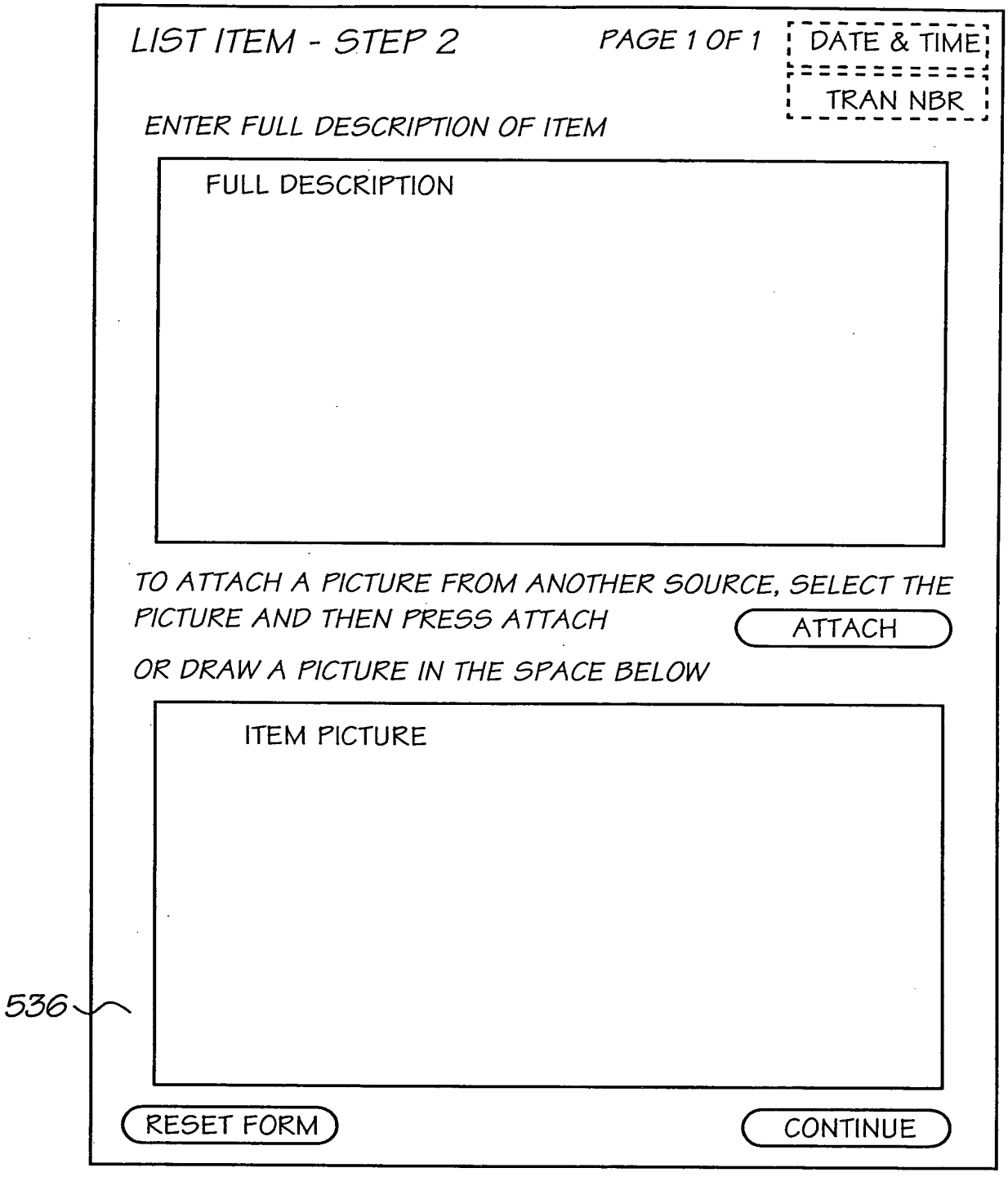
LIST ITEM - STEP 2
PAGE 1 OF 1
DATE & TIME
TRAN NBR
ENTER FULL DESCRIPTION OF ITEM
FULL DESCRIPTION
TO ATTACH A PICTURE FROM ANOTHER SOURCE, SELECT THE PICTURE AND THEN PRESS ATTACH
ATTACH
OR DRAW A PICTURE IN THE SPACE BELOW
ITEM PICTURE
536
RESET FORM
CONTINUE

FIG. 60

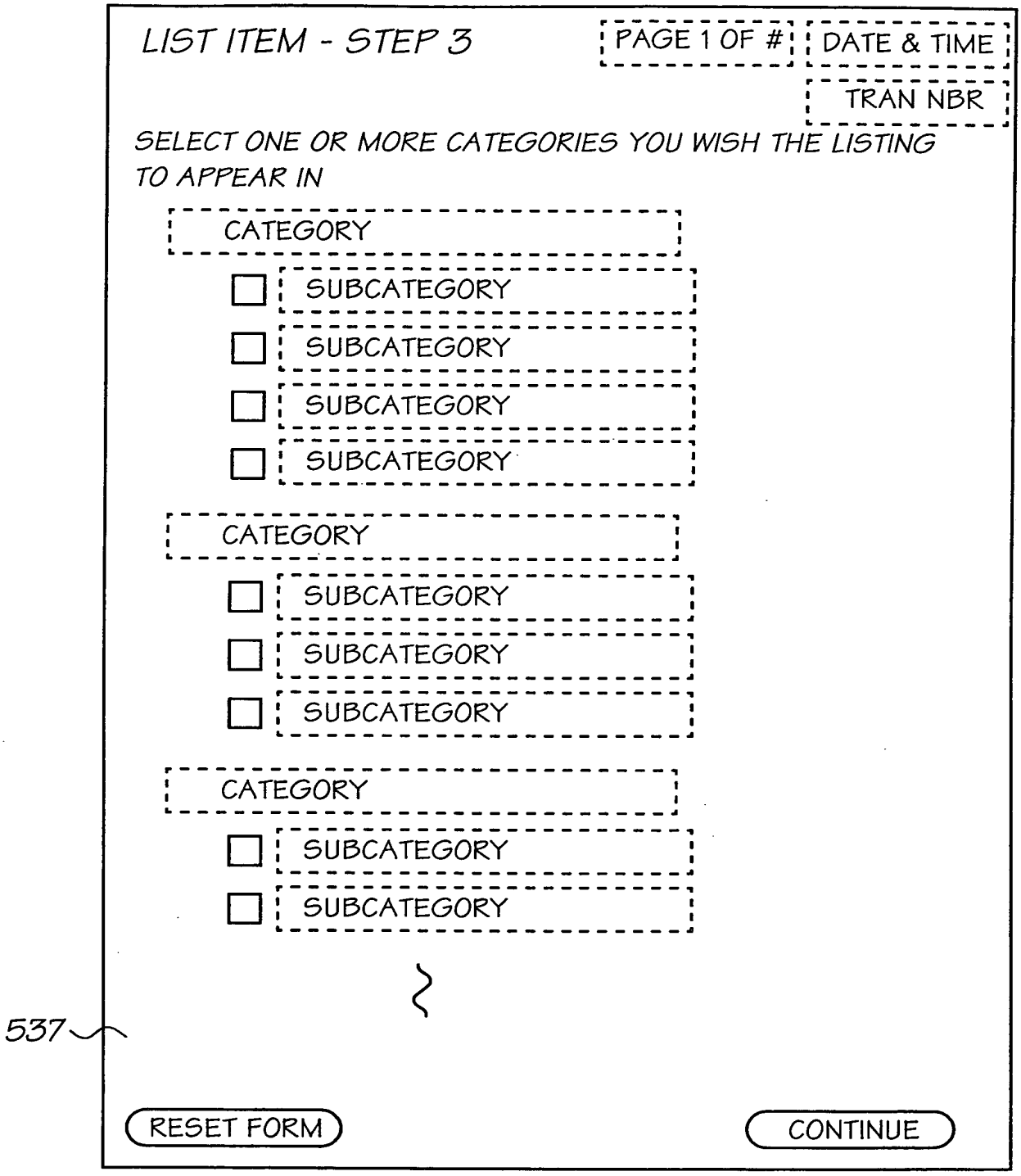
LIST ITEM - STEP 3
PAGE 1 OF #
DATE & TIME
TRAN NBR
SELECT ONE OR MORE CATEGORIES YOU WISH THE LISTING TO APPEAR IN
CATEGORY
SUBCATEGORY
SUBCATEGORY
SUBCATEGORY
SUBCATEGORY
CATEGORY
SUBCATEGORY
SUBCATEGORY
SUBCATEGORY
CATEGORY
SUBCATEGORY
SUBCATEGORY
537
RESET FORM
CONTINUE

FIG. 61

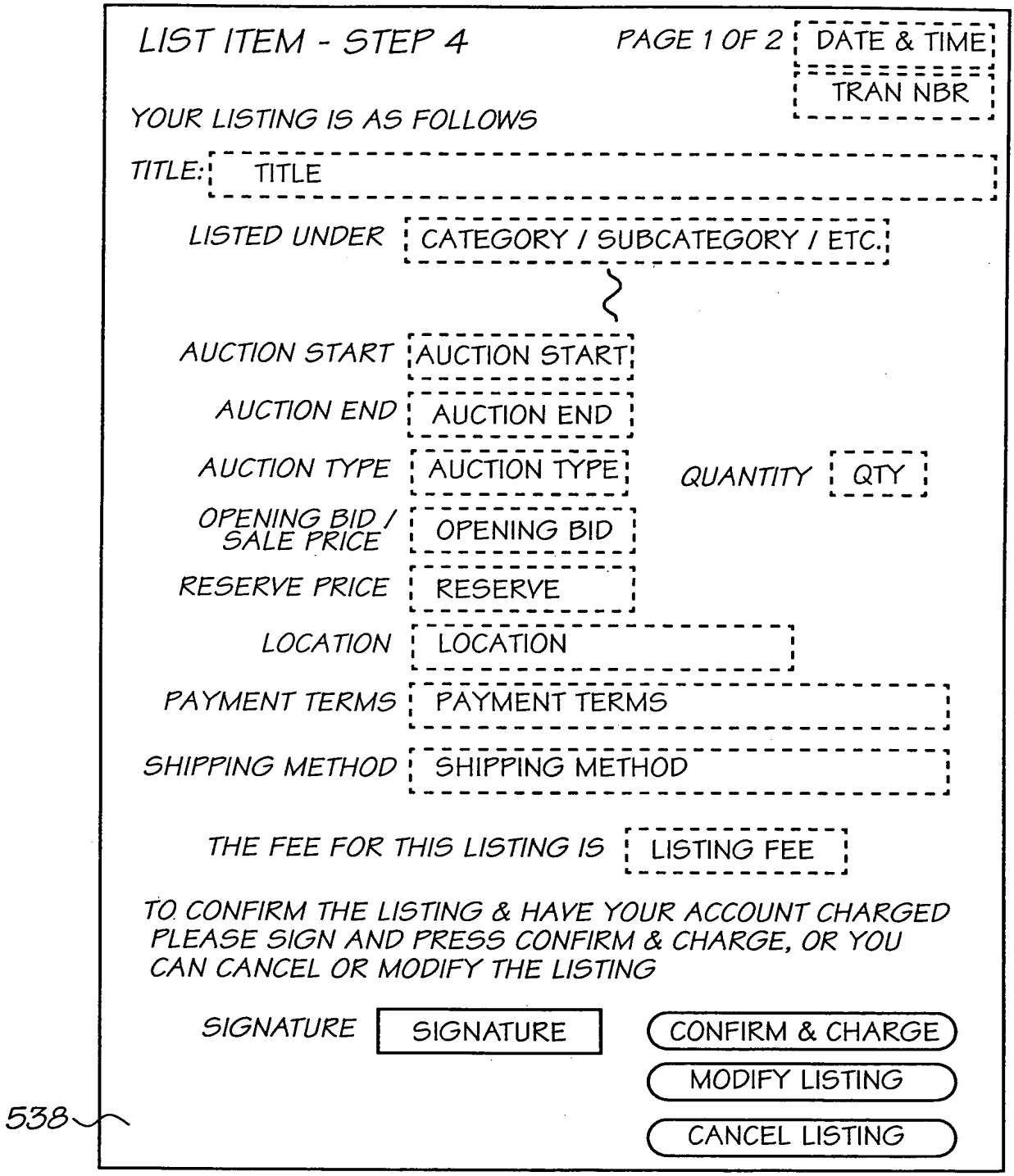
LIST ITEM - STEP 4
PAGE 1 OF 2
DATE & TIME
TRAN NBR
YOUR LISTING IS AS FOLLOWS
TITLE:
TITLE
LISTED UNDER
CATEGORY / SUBCATEGORY / ETC.
AUCTION START
AUCTION START
AUCTION END
AUCTION END
AUCTION TYPE
AUCTION TYPE
QUANTITY
QTY
OPENING BID / SALE PRICE
OPENING BID
RESERVE PRICE
RESERVE
LOCATION
LOCATION
PAYMENT TERMS
PAYMENT TERMS
SHIPPING METHOD
SHIPPING METHOD
THE FEE FOR THIS LISTING IS
LISTING FEE
TO CONFIRM THE LISTING & HAVE YOUR ACCOUNT CHARGED PLEASE SIGN AND PRESS CONFIRM & CHARGE, OR YOU CAN CANCEL OR MODIFY THE LISTING
SIGNATURE
SIGNATURE
CONFIRM & CHARGE
MODIFY LISTING
CANCEL LISTING
538

FIG. 62

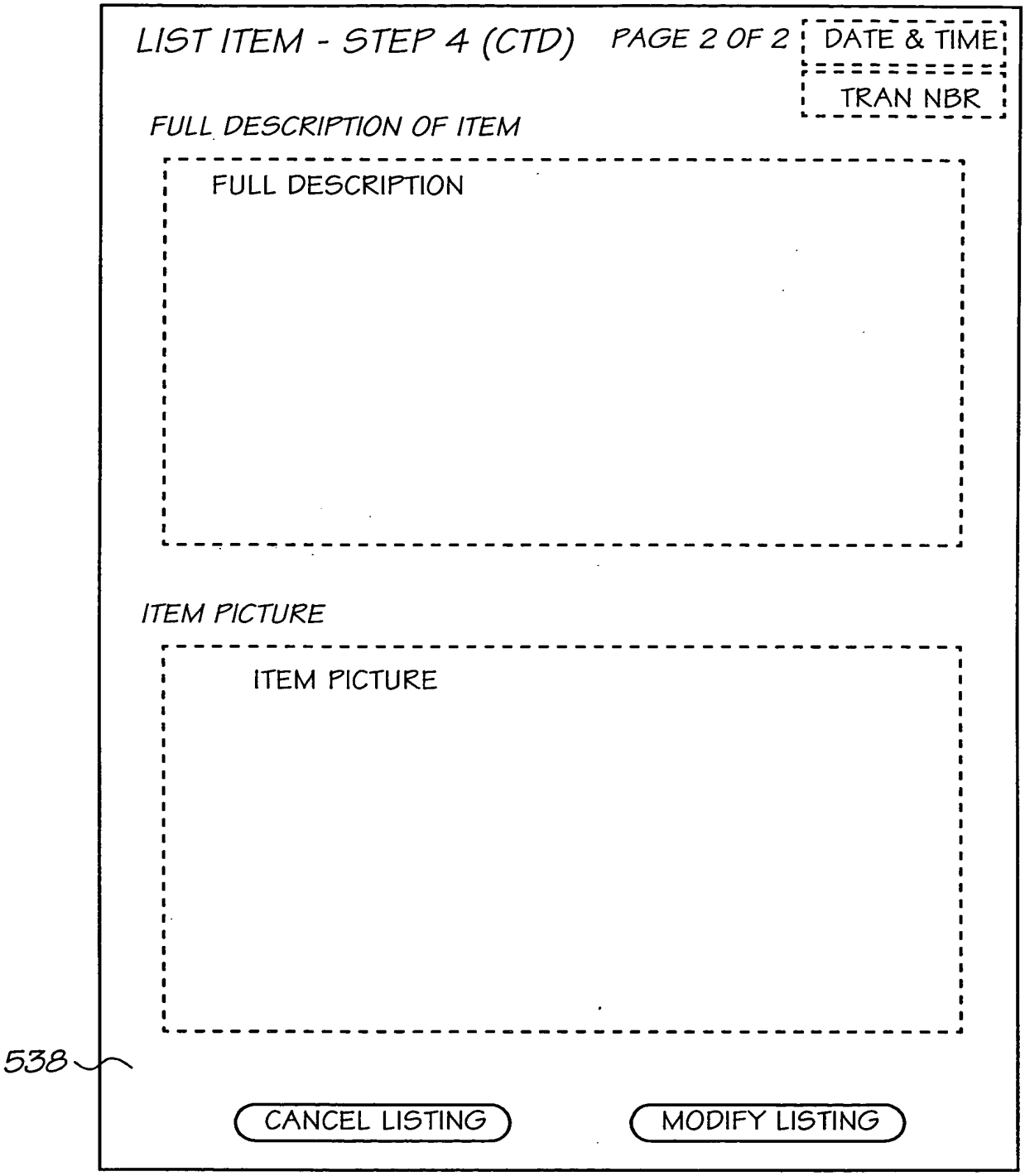
LIST ITEM - STEP 4 (CTD)
PAGE 2 OF 2
DATE & TIME
TRAN NBR
FULL DESCRIPTION OF ITEM
FULL DESCRIPTION
ITEM PICTURE
ITEM PICTURE
538
CANCEL LISTING
MODIFY LISTING

FIG. 63

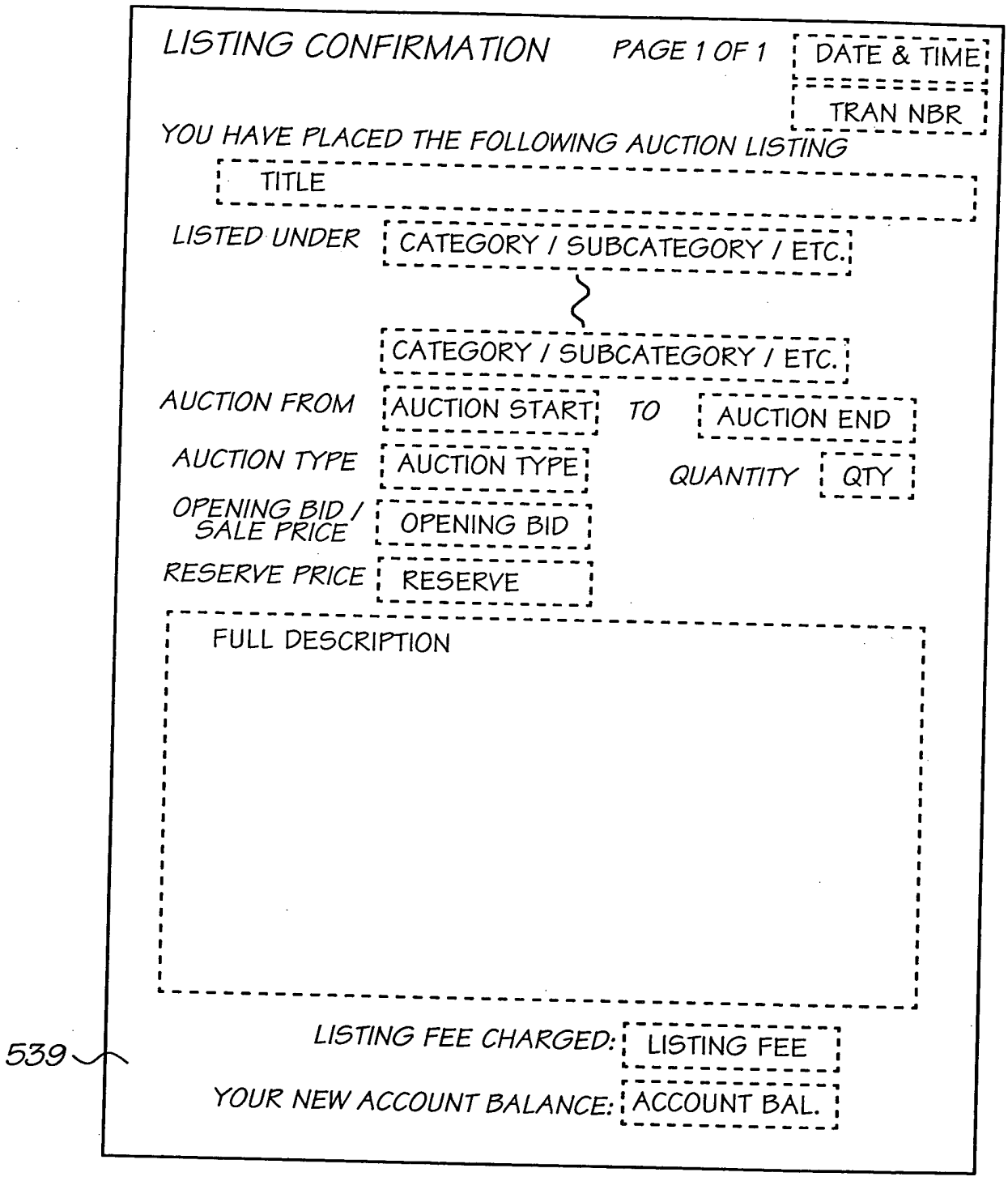
LISTING CONFIRMATION
PAGE 1 OF 1
DATE & TIME
TRAN NBR
YOU HAVE PLACED THE FOLLOWING AUCTION LISTING
TITLE
LISTED UNDER
CATEGORY / SUBCATEGORY / ETC.
CATEGORY / SUBCATEGORY / ETC.
AUCTION FROM
AUCTION START
TO
AUCTION END
AUCTION TYPE
AUCTION TYPE
QUANTITY
QTY
OPENING BID / SALE PRICE
OPENING BID
RESERVE PRICE
RESERVE
FULL DESCRIPTION
539
LISTING FEE CHARGED:
LISTING FEE
YOUR NEW ACCOUNT BALANCE:
ACCOUNT BAL.

FIG. 64